

**Before the  
Federal Communications Commission  
Office of the Secretary  
Washington, DC 20554**

In the Matter of	)	
	)	
<b>Requests for Review of Decision of the</b>	)	<b>Entity No. 129516</b>
<b>Universal Service Administrator and/or</b>	)	<b>Application No. 1050868</b>
<b>Waiver of Rule by the</b>	)	<b>Funding Request No. 2870470</b>
	)	
<b>Brooklyn City School District</b>	)	
<b>Brooklyn, Ohio</b>	)	
<b>Funding Year 2015-2016</b>	)	
	)	
Schools and Libraries Program	)	<b>CC Docket No. 02-6</b>

NOW COMES the Board of Education of the Brooklyn City School District (“Brooklyn” or “District”), Brooklyn, Ohio, pursuant to 47 C.F.R. § 54.719 seeking review from the Federal Communications Commission (“FCC” or “Commission”) of a decision by the Administrator of the Schools and Libraries Division (“SLD”) of the Universal Service Administrative Company (“USAC” or “Administrator”), or in the alternative, a waiver of the Commission’s rules.

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## **EXHIBITS**

- A. Notification of Commitment Adjustment Letter dated Mar. 24, 2017
- B. Form 471
- C. USAC Administrator Decision dated June 16, 2017
- D. FCC Form 470
- E. Rejected 1 GB Bids
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- G. TEG Bid
- H. TSI Bid
- I. Price Comparison

## **I. STATEMENT OF INTEREST**

This is an appeal from the Administrator's decision to deny funding for the full amount in question of \$166,430.97. In sum, the Administrator ruled that Brooklyn did not make price the primary factor when it selected a vendor to install a new fiber network. The District disagrees and maintains that it not only made price the *primary* factor when selecting a vendor, but it made price the ***only*** factor in its selection decision. Simply put, the District included the cost of recurring licensing fees when comparing the prices proposed by prospective bidders, and it chose the vendor offering the lowest total price.

### **A. Summary of Procedural History**

On March 24, 2017, USAC issued a Notification of Commitment Adjustment Letter to prevent the disbursement of the full amount of \$166,430.97. (See Notification of Commitment Adjustment Letter dated Mar. 24, 2017, attached as Ex. A). The decision pertained to FCC Form 471 Application Number 1050868 and Funding Request Number ("FRN") 2870470 for Funding Year 2015-2016. (*Id.*); (See Form 471, attached as Ex. B). The Administrator gave the following two (2) reasons for denying funding: 1) the District allegedly did not have a legally binding agreement in place at the time of submitting its FCC Form 471; and 2) the District allegedly did not make price the primary factor in the vendor selection process. (See Ex. A). Brooklyn appealed this decision to USAC on May 23, 2017.

On June 16, 2017, the Administrator issued its decision on appeal. (See USAC Administrator Decision dated June 16, 2017, attached as Ex. C). The Administrator's decision only granted in part Brooklyn's appeal of USAC's decision to adjust the funding commitment amount. (*Id.*) The Administrator found that the District did in fact have a legally binding agreement in place at the time of submitting its FCC Form 471, but it did not make price the

primary factor when selecting a vendor. (*Id.*) As a result, the Administrator affirmed the decision to deny the entire funding amount of \$166,430.97. (*Id.*)

In response, Brooklyn now appeals to the FCC seeking review of the Administrator's decision regarding the issue of whether the District made price the primary factor in the vendor selection process. The District acknowledges that an E-rate applicant is required to select the most cost-effective service provider and make price the primary factor in the selection process. Indeed, it did just that. The District not only made price the *primary* factor, but it made price *the sole and exclusive factor* when selecting the winning bid.

### **B. Summary of Issue and Argument**

The issue in dispute lies in the District's approach to determining the true cost of proposed services when comparing bids for a new dedicated 10 GB fiber connection and network. As required under 47 C.F.R. § 54.503, the District followed a competitive bidding process to obtain bids for the new network. After reviewing the submitted bids, the District recognized that some bidders proposed using hardware, specifically switches and access points ("APs"), that required additional and continuing payments for licensing renewal fees. These additional payments would recur every three (3) years for as long as the District used the network. Because the project was a significant infrastructural network build-out that was intended to last at least 15 years,<sup>1</sup> the District added these recurring licensing renewal costs to the bidders' proposed prices to determine the true total cost when reviewing bids.

Although at first glance some bidders appeared less expensive, their bids were artificially lower because their cost totals failed to include recurring hardware licensing costs that would be

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<sup>1</sup> The FCC has found that the useful life for new fiber builds and infrastructure projects like this is actually closer to **20 years or more**. See *In the Matter of Modernizing the E-Rate Program for Schools & Libraries*, 29 F.C.C. Rcd. 8870, 8948, 29 F.C.C. Rcd. 12714, ¶276 (rel. July 23, 2014).

repeatedly assessed over the course of the network's lifespan. Only one (1) bidder proposed switches and access points that did *not* entail these regular licensing renewal fees. While the initial cost for this bidder's hardware was higher when compared to other bidders, the *long-term cost* was actually *less* than the other options because there were no recurring renewal costs. Instead, the licensing fees were bundled with the per-unit cost of the hardware.

At all times Brooklyn attempted to fully comply with E-rate rules and regulations when selecting the most cost-effective network vendor. In fact, by not taking into account the recurring licensing costs, the District risked finding itself in a similar situation of being accused of improperly selecting a more costly option or not making price the primary factor.

Here, a finding against Brooklyn would encourage wasteful shortsightedness and inefficient purchasing practices in favor of minimal short-term savings at the expense of more substantial long-term savings. In addition, a finding against Brooklyn would also create the risk of allowing prospective vendors to circumvent the purpose of the competitive bidding process by "hiding" costs like recurring licensing renewal fees. These bidders could submit hardware bids with significantly lower start-up costs at the price comparison stage of the competitive bidding process, while knowing the difference in their "low-ball" hardware bids compared to that of a competitor's bid with bundled licensing fees could be made up by demanding biannual or triannual licensing renewal fees. Such a practice becomes worrisome if FCC rules are interpreted to restrict schools from including the additional fees in the price and to force them to only consider the first year price without regard to a project's hidden fees and long-term costs.<sup>2</sup>

USAC's decision effectively compels the District to unnecessarily commit to a higher priced vendor. But such a result is contrary to the purpose behind the competitive bidding

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<sup>2</sup> The result would also be unfair to those bidders who propose using comparable hardware with all licensing fees bundled into the initial per-unit cost.

process. Under USAC's decision, the District must commit to the lower price in the short-term, even though the price will eventually increase and inflate beyond cheaper options on account of the licensing renewal fees. Worse, because the District is dependent on its network, Brooklyn would have no choice but to pay the additional fees or else face a network shut-down.

If this is the FCC's intended result, then in the alternative, Brooklyn requests in this particular case that the FCC waive its rules pertaining to bidder selection and price being the primary factor. A waiver would allow the District to avoid the illogical result of having to pay more than necessary simply because one vendor proposed using cheaper switch hardware that entailed additional recurring payments of licensing renewal fees every three years, instead of another vendor whose proposal was slightly more expensive at first, but cheaper in the long-term because its switch hardware did not require additional licensing fees.

At the very least, Brooklyn requests that the FCC waive its rules to the extent that Brooklyn will only be expected to cover the difference between the selected vendor and the vendor that cost the least in the short-term. Brooklyn should not be punished by losing all of its funding for acting in good faith to make price the primary factor in its selection decision. The District sincerely attempted to save money by choosing the lowest cost option over the life of the network.

## **II. STATEMENT OF MATERIAL FACTS**

As demonstrated by the facts in the attached documents, the District followed FCC regulations and made price the primary factor when awarding the winning bid. After seeking bids through a competitive bidding process and comparing the total costs proposed by the bidders over the long-term useful life of the network, the District selected Total Systems Integration Inc. ("TSI") as its service provider because it was the cheapest option when factoring in the long-term costs of recurring licensing fees.

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The District initiated the competitive bidding process by submitting a completed FCC Form 470 to USAC. (See FCC Form 470, attached as Ex. D).<sup>3</sup> The Form 470 shows that the District had submitted a request for bids for a 10 GB fiber backbone on the network, which is indicated by the phrases “HP 10 Gig SR SFP Transceivers or equivalent” and the specific request for “10 Gig Fiber Links from MDF to IDFs.” (*Id.*) Thus, the District’s Form 470 clearly specified it was seeking a certain power level for its network infrastructure, specifically a 10 GB fiber backbone.

The GB size of the proposed backbone is important because the District used responsiveness to its Form 470 request for a 10 GB network as criteria to narrow down the proposals and arrive at a responsible decision to accommodate future technological needs. While several vendors submitted proposals, many only offered 1 GB networks, which was not what the District was requesting. The District was able to reject the 1 GB bids outright for not being responsive to the 10 GB network request as designated on the Form 470. (See Rejected 1 GB Bids, attached as Ex. E).<sup>4</sup>

After rejecting the non-responsive bids, the District was left with only three (3) remaining bid submissions that were responsive to the District’s initial bid specifications for a 10 GB network backbone. The first responsive vendor was TEC communications (“TEC”). (See TEC Bid, attached as Ex. F). TEC proposed a 10 GB network using Cisco “Meraki” Wireless and

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<sup>3</sup> The Form 470 shows that there was no RFP submitted for the project but rather the services requested were listed on the Form 470 itself. (See Ex. D at pg. 3).

<sup>4</sup> Both TEC and TEG submitted a 1 GB proposal along with a 10 GB proposal. The 1 GB proposal from TEG was part of its 10 GB proposal, which TEG also incorporated into a “hybrid” proposal combining a 10 GB backbone with 1 GB fiber to go to all network closets. (See Ex. G). The District did not consider TEG’s “hybrid” proposal or the 1 GB proposals from either TEC or TEG because they were not responsive to the District’s request for 10 GB fiber to all network closets.

Catalyst switches. (*Id.*) The second responsive proposal was from Technology Engineering Group (“TEG”). (See TEG Bid, attached as Ex. G). Like TEC, TEG also proposed Cisco Meraki wireless equipment as well as Meraki switches. (*Id.*) The final responsive bid proposal was from TSI. (See TSI Bid, attached as Ex. H). But unlike TEC and TEG, TSI proposed Hewlett Packard (“HP”) switches and wireless equipment. (*Id.*)

Importantly, the District evaluated bids by comparing the quoted price along with the long-term costs of licensing renewal fees. Both TEG and TEC required renewal fees to retain the licensing for hardware, but not TSI. In particular, both TEG and TEC included Meraki equipment in their proposals -- TEC quoted only Meraki APs, but TEG quoted Meraki switches and APs. In contrast, TSI quoted HP switches and access points.

The source of the switches and access points is significant because Cisco-Meraki products require licensing agreements and the purchase of renewal licensing agreements every three (3) years. (See Exs. F & G). For instance, in Line 13 of page 4 of its bid, TEC included an item captioned “3YR LIC AND SUP MR ENTERPRISE” for 112 units at \$129.25 a-piece for a total of \$14,476 **to be paid upon renewal every three (3) years**. (See Ex. F at pg. 4). TEC specifically stated in regard to the Meraki product: **“This model does require a renewable license. A three year license is shown and would need to be renewed in three years.”** (*Id.*) (emphasis added). Similarly, TEG references “(21) 3-Year Cisco Meraki Switch Licenses” and “(96) 3-Year Cisco Meraki Enterprise access point Licenses” in its proposal. (See Ex. G at pg. 4). The estimate for TEG’s wireless access points was \$117 per unit for a total of \$11,232 and a total of \$8,737.62 for all 21 Meraki switch licenses **to be paid upon renewal every three (3) years**. (*Id.*) These recurring fees become quite costly if the network is expected to operate for 15 or more years.



Licensing agreements are essential to maintain the functionality of these important components. If the District did not continue to pay the licensing costs, then its network would be inoperable. In contrast to the Meraki switches and APs, HP products came with permanent licensing arrangements, so they did not require regular renewal payments. (See Ex. H at pg. 2 (quoting price for “130 – 802.11ac Wireless + **130 Permanent Premium Licenses** – Lifetime 8x5 NBD Warranty – **No ongoing charges**”) (emphasis added)). TSI’s bid also stated: “Includes **Lifetime Warranty** – 8x5 NBD Replacement, Tech Support, Software Upgrades – Lifetime. Cabling includes 20 year Performance Warranty . . . **No additional on-going charges required.**” (See *id.* at pg. 3 (emphasis added)).

Therefore, because licensing was a significant and real cost that varied among the potential vendors, the District properly included the price of the licensing renewal fees over the useful life of the network when comparing bids. Accordingly, the District’s inclusion of the licensing costs shows the District was not only mindful of the long-term cost effectiveness of the new network, but it also made price the *primary* factor in its final selection.

A comparison of the submitted bids illustrates that the District did in fact make price the primary factor in the decision-making process and it chose the most cost-effective provider. A summary comparing the cost estimate totals from the three (3) responsive proposals (TEC, TEG and TSI) shows TSI offered the most cost-effective bid and the lowest price of \$208,245.98<sup>5</sup> over a reasonable service life of 15 years. (See Price Comparison, attached as Ex. I).

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<sup>5</sup> TSI’s bid also included an additional service for an “Avaya IP Office VOIP System” amounting to \$43,057.76, but this amount was not included as part of the E-rate program or the bid comparison because it was an ineligible service under FCC rules. (See Ex. H at pg. 3).

For ease of reference, the comparison in Exhibit I is duplicated below:

<b>Vendor</b>	<b><u>TSI</u> - 10GB fiber</b>	<b><u>TEC</u> - 10GB fiber</b>	<b><u>TEG</u> - 10GB fiber</b>
Description of Costs	10GB backbone using HP products with fiber, limited-lifetime product warranty hardware, lifetime software	10 GB using Meraki wireless and Cisco switches, with fiber connection, limited-lifetime product warranty hardware, <b>licensing needs renewed every 3 years to function</b>	10 GB Meraki, no fiber, Meraki licensing in switches and APs, <b>licensing needs renewed every 3 years to function</b>
Wireless hardware (as quoted)	\$86,974.60	\$53,116.00	\$35,424.00
Switch Hardware (as quoted)	\$108,468.38	\$85,317.00	\$90,081.00
Labor Cost (as quoted)	\$12,803.00	\$17,887.00	\$13,250.00
Maintenance Fees (as quoted)	\$0.00	\$6,318.00	\$0.00
<b>SUBTOTAL</b>	\$208,245.98	\$162,638.00	\$138,755
Wireless Access Point count	130	112	96
Licensing fees - Wireless (cost per unit)	\$0.00	\$129.25	\$117.00
Wireless licensing renewal cost - Total	\$0.00	\$14,476.00	\$11,232.00
Switch count	27	18	21
Switch licensing renewal cost - Total	\$0.00	\$0.00	\$8,737.62
Total Licensing Renewal Cost <b>EVERY 3 YEARS</b>	\$0.00	\$14,476.00	\$19,969.62
Total Licensing Renewal Cost <b>Over 15 years w/4 Renewals</b>	\$0.00	<b>\$57,904</b>	<b>\$79,878.48</b>
TOTAL Cost of project over 15 years (long-term cost effectiveness)	<b>\$208,245.98</b>	\$162,638.00 + \$57,904 <b>\$220,542.00</b>	\$138,755 + \$79,878.48 <b>\$218,633.48</b>

As demonstrated in this chart, even though TEG and TEC presented proposals that had lower start-up costs initially, they were actually *more expensive* in the long-run over the useful life of the network. This difference is due to TEG and TEC providing Meraki access points and/or switches, which required the payment of renewal fees for the licensing agreements every three (3) years. The additional licensing fees would be at a cost to the District of \$14,476 for {02398101 -3}

TEC and \$19,969.62 for TEG *every three (3) years*. See Exs. F & G. After 15 years, these additional fees would total approximately \$57,904 for TEC and \$79,878.48 for TEG. On the other hand, TSI's HP network may have had a higher initial cost of \$208,245.98 compared to that of \$162,638 and \$141,755 offered by TEC and TEG, respectively, but **TSI had no additional licensing fees** beyond the initial purchase price. **Thus, over a long-term network life of 15 years, TSI's bid of \$208,245.98 was actually the most cost-effective compared to TEC's bid of \$220,542 or TEG's bid of \$218,633.48.**<sup>6</sup>

Consequently, the District followed FCC regulations. After carefully scrutinizing the submitted bids from all three (3) responsive bidders, it selected TSI over the others because TSI was most responsive to the District's needs as set forth in Form 470, and more importantly, its price was the lowest and most cost-effective over the long-term useful life of the network. Unlike TEC and TEG, TSI's switches and access points were *not* subject to multiple licensing renewals that could have added tens of thousands of dollars to the proposed start-up cost. Accordingly, price was always the primary factor in Brooklyn's vendor selection process.

### **III. QUESTION FOR REVIEW**

*Did the District fail to follow FCC rules, particularly 47 CFR § 54.503(c)(2)(ii)(B) and 47 CFR § 54.511(a), by making price the primary factor and selecting the most cost-effective network provider when it selected the lowest-priced bidder after adding the long-term costs of recurring, triannual licensing fees?*

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<sup>6</sup> TEG's bid reflected \$49,700 for the 1 GB fiber network with switches and an additional amount of \$35,424 for the wireless portion and \$13,250 for labor. (See Ex. G). The bid increased to \$90,081 for the 10 GB fiber network with switches, while the cost of \$35,424 for the wireless portion and \$13,250 for labor remained the same. (*Id.*)

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#### **IV. STATEMENT OF RELIEF SOUGHT**

Brooklyn requests a reversal of USAC's decision to deny funding. Contrary to the Administrator's decision, the District followed FCC regulations and made price the primary factor in the vendor selection process. 47 C.F.R. § 54.503(c)(2)(ii)(B) states, "All bids submitted for eligible products and services will be carefully considered, with price being the primary factor, and the bid selected will be for the most cost-effective service offering consistent with § 54.511." In addition, 47 CFR § 54.511(a) states, "In determining which service offering is the most cost-effective, entities may consider relevant factors other than the pre-discount prices submitted by providers, but price should be the primary factor considered." As demonstrated, the District fulfilled these obligations by making price the primary factor and choosing the most cost-effective service provider.

##### **A. Brooklyn Requests a Reversal of USAC's Decision to Deny Funding and a Finding that the District Made Price the Primary Factor in the Selection Process when It Added the Long-term Costs of Licensing Renewal Fees to Bid Proposals.**

Brooklyn requests that the FCC review and overturn or reverse USAC's decision concluding the District did not select the most cost-effective products and/or services while making price the primary factor. Upon finding that the District did indeed make price the primary factor when considering the long-term costs of renewal fees and selecting TSI as the most cost-effective network provider, Brooklyn requests that the FCC reinstate the full amount of funding in question, specifically \$166,430.97.

The long-term costs of licensing renewal fees are significant and cannot be ignored. Over 15 years, the hidden long-term costs of the licensing renewal fees for TEC was approximately \$57,904 and \$79,878.48 for TEG. Adding these costs to the initially proposed bid amounts makes TEC and TEG more costly than TSI, which was the winning bidder. (See Ex. I).

Thus, overlooking the long-term costs of licensing fees as USAC proposes is not cost-effective, as it prevents an entity from obtaining a comparable item and service for less money.

Determining the cost-effectiveness of an item or service is not always a straightforward comparison of apples to apples. In fact, as acknowledged by the FCC as recently as 2016, “The Commission has not established a bright-line test for determining when a particular service offering is not cost-effective.” *In the Matter of Requests for Rev. and/or Waiver of Decisions of the Universal Serv. Admr. by Sweetwater City Schools*, F.C.C. File Nos. 917099, 919406, et al., 2016 WL 7492486, at ¶25 (rel. Dec. 30, 2016).

A bright-line test may not be available, however, the Commission has recognized the benefits of long-term planning when making purchasing decisions. For instance, the FCC agreed that “technology planning is an important step in the process of long-term planning on how best to procure and utilize internal connections.” *In the Matter of Modernizing the E-Rate Program for Schools & Libraries*, 29 F.C.C. Rcd. 8870, 8948, 29 F.C.C. Rcd. 12714, ¶198 (rel. July 23, 2014). Here, the District followed similar principles when it identified its long-term need for a 10 GB fiber network and determined that the most-effective option to best “procure and utilize internal connections” was through switches and access points with licensing costs bundled into the initial price instead of having to pay triannual renewal fees over the life of the network.

Moreover, the FCC has found that selecting a higher bid, by itself, does *not* necessarily violate its cost-effectiveness rules. *See In re Sweetwater City Schools*, F.C.C. File Nos. 917099, 919406, et al. at ¶26 (finding that selecting a bid that is 50 percent more than the lowest-cost bid may raise concerns, but the selection alone does not violate the FCC’s cost-effectiveness rules, especially when bid evaluators considered six (6) other non-cost factors, as allowed by FCC rules). But in contrast to *In re Sweetwater*, Brooklyn is not even trying to assert that “non-cost factors” should be considered. Rather, price has been and remains the District’s sole driving

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factor throughout the bid selection process. The District simply added long-term costs and the price of licensing fees to the initial bid totals. Thus, price remains the District's *only* criteria.

When selecting the winning bid Brooklyn simply conducted itself as a reasonable consumer and evaluated bids according to the total price it would be expected to pay after 15 years. The assumption that the new network would have a useful life of 15 years is actually a conservative estimate compared to that of the FCC, which expects new network builds to have useful lives of 20 years or more. *See In the Matter of Modernizing the E-Rate Program for Schools & Libraries*, 29 F.C.C. Rcd. 8870, 8948, 29 F.C.C. Rcd. 12714, ¶276 (rel. July 23, 2014) (“We recognize that long-term contracts may be the most efficient way to contract for the **installation of a new dedicated fiber connection, or other such facility, which is likely to have a useful life of 20 years or more.**”).

Indeed, the FCC has championed the practice of purchasing items that may appear costly in the short-term, but that lower recurring costs and obtain the benefit of long-term savings. *In the Matter of Modernizing the E-Rate Program for Schools & Libraries*, 28 F.C.C. Rcd. 11304, 11361, ¶216 (rel. July 23, 2013) (expressing a desire to “provide E-rate applicants assurance that significant investments which raise costs in the short term but significantly lower recurring costs will not run afoul of our rules, while continuing to protect against wasteful or inefficient purchases.”) The District’s decision here reflects the very same principle espoused by the FCC.

Yet, USAC’s decision runs contrary. USAC’s findings promote inefficient and wasteful purchasing practices, whereas the District strived to protect limited financial resources. Consequently, USAC’s decision is improper as Brooklyn wholly complied with FCC rules and interpretations.

**B. Alternatively, Brooklyn Requests that the FCC Waive Its Rules and Not Penalize the District for Its Good Faith Effort to Make Price the Primary Factor in the Selection Process By Including Long-term Renewal Fees when Comparing Bids.**

In the alternative, if the FCC finds that Brooklyn did *not* select the most cost-effective products and/or services while making price the primary factor when it considered the costs of recurring renewal fees and selected TSI over the other options, Brooklyn requests that the FCC waive its rules to accommodate the District and the public interest. After all, the District acted in good faith at all times and sincerely attempted to choose the cheapest option. There is also no evidence of waste, fraud abuse or any other effort to circumvent the rules.

The FCC's rules may be waived if good cause is shown. 47 C.F.R. § 1.3. The Commission may exercise its discretion to waive a rule where the particular facts make strict compliance inconsistent with the public interest. *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) ("*Northeast Cellular*"). In addition, the Commission may take into account considerations of hardship, equity or more effective implementation of overall policy on an individual basis. *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969); *Northeast Cellular*, 897 F.2d at 1166. Waiver of the Commission's rules is appropriate if both (i) special circumstances warrant a deviation from the general rule, and (ii) such deviation will serve the public interest. *NetworkIP, LLC v. FCC*, 548 F.3d 116, 125-128 (D.C. Cir. 2008); *Northeast Cellular*, 897 F.2d at 1166.

Finally, if the FCC finds that it cannot waive its rules in full, then the District requests that the FCC waive its rules in part or otherwise offer a more equitable resolution than revoking the full amount of \$166,430.97. Perhaps the revoked amount would only reflect the difference between the selected bid from TSI and the lowest bid. For instance, the District requests that it at least receive funding for approximately \$138,755, which is the amount proposed by the lowest

bidder, TEG. Otherwise, Brooklyn would be excessively and unreasonably punished for acting in good faith and attempting to follow the letter and spirit of the law and the FCC's rules.

## **V. CONCLUSION**

For the reasons stated above, the District respectfully requests that the FCC reverse the Administrator's decision to deny its funding. In sum, the District provided evidence confirming it made price the primary factor when selecting a provider.

The District and I wish to cooperate fully throughout the appeals process. Please do not hesitate to contact the undersigned should you require additional information from the District. We will make every effort to furnish you with any information you require.

Respectfully submitted,



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Brooklyn City School District*

## **CERTIFICATE AND PROOF OF SERVICE**

I hereby certify that on this 15<sup>th</sup> day of August, 2017, a copy of the foregoing was sent via email to [appeals@sl.universalservice.org](mailto:appeals@sl.universalservice.org) and regular U.S. Mail to Administrator, Universal Service Administrative Company, Schools and Libraries Division, 30 Lanidex Plaza West, PO Box 685, Parsippany, New Jersey 07054-06858.



*Attorney for the Board of Education of the  
Brooklyn City School District*





**Notification of Commitment Adjustment Letter**  
**Funding Year 2015: July 1, 2015 - June 30, 2016**

March 24, 2017

**Mark Gleichauf**  
**BROOKLYN CITY SCHOOL DISTRICT**  
**9200 Biddulph Road**  
**Brooklyn, OH 44144-2614**

<b>Re: Form 471 Application Number:</b>	<b>1050868</b>
<b>Funding Year:</b>	<b>2015</b>
<b>Applicant's Form Identifier:</b>	<b>FY15_471_Priority_2</b>
<b>Billed Entity Number:</b>	<b>129516</b>
<b>FCC Registration Number:</b>	<b>0002915490</b>
<b>SPIN:</b>	<b>143011790</b>
<b>Service Provider Name:</b>	<b>Total Systems Integration (TSI), Inc.</b>
<b>Service Provider Contact Person:</b>	<b>George Dallas</b>

Our routine review of Schools and Libraries Program (SLP) funding commitments has revealed certain applications where funds were committed in violation of SLP rules.

In order to be sure that no funds are used in violation of SLP rules, the Universal Service Administrative Company (USAC) must now adjust your overall funding commitment. The purpose of this letter is to make the required adjustments to your funding commitment, and to give you an opportunity to appeal this decision. USAC has determined the applicant is responsible for all or some of the violations. Therefore, the applicant is responsible to repay all or some of the funds disbursed in error (if any).

This is NOT a bill. If recovery of disbursed funds is required, the next step in the recovery process is for USAC to issue you a Demand Payment Letter. The balance of the debt will be due within 30 days of that letter. Failure to pay the debt within 30 days from the date of the Demand Payment Letter could result in interest, late payment fees, administrative charges and implementation of the "Red Light Rule." The FCC's Red Light Rule requires USAC to dismiss pending FCC Form 471 applications if the entity responsible for paying the outstanding debt has not paid the debt, or otherwise made satisfactory arrangements to pay the debt within 30 days of the notice provided by USAC. For more information on the Red Light Rule, please see <https://www.fcc.gov/encyclopedia/red-light-frequently-asked-questions>.

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TO APPEAL THIS DECISION:

If you wish to appeal the Commitment Adjustment Decision indicated in this letter to USAC, your appeal must be received or postmarked within 60 days of the date of this letter. Failure to meet this requirement will result in automatic dismissal of your appeal. In your letter of appeal:

1. Include the name, address, telephone number, fax number, and email address (if available) for the person who can most readily discuss this appeal with us.
2. State outright that your letter is an appeal. Identify the date of the Notification of Commitment Adjustment Letter and the Funding Request Number(s) (FRNs) you are appealing. Your letter of appeal must include the
  - Billed Entity Name,
  - Form 471 Application Number,
  - Billed Entity Number, and
  - FCC Registration Number (FCC RN) from the top of your letter.
3. When explaining your appeal, copy the language or text from the Notification of Commitment Adjustment Letter that is the subject of your appeal to allow USAC to more readily understand your appeal and respond appropriately. Please keep your letter to the point, and provide documentation to support your appeal. Be sure to keep a copy of your entire appeal including any correspondence and documentation.
4. If you are an applicant, please provide a copy of your appeal to the service provider(s) affected by USAC's decision. If you are a service provider, please provide a copy of your appeal to the applicant(s) affected by USAC's decision.
5. Provide an authorized signature on your letter of appeal.

We strongly recommend that you use one of the electronic filing options. To submit your appeal to USAC by email, email your appeal to [appeals@sl.universalservice.org](mailto:appeals@sl.universalservice.org) or submit your appeal electronically by using the "Submit a Question" feature on the USAC website. USAC will automatically reply to incoming emails to confirm receipt.

To submit your appeal to us by fax, fax your appeal to (973) 599-6542.

To submit your appeal to us on paper, send your appeal to:

Letter of Appeal  
Schools and Libraries Program - Correspondence Unit  
30 Lanidex Plaza West  
PO Box 685  
Parsippany, NJ 07054-0685

For more information on submitting an appeal to USAC, see "Appeals" in the "Schools and Libraries" section of the USAC website.

## FUNDING COMMITMENT ADJUSTMENT REPORT

On the pages following this letter, we have provided a Funding Commitment Adjustment Report (Report) for the Form 471 application cited above. The enclosed Report includes the Funding Request Number(s) from your application for which adjustments are necessary. See the "Guide to USAC Letters" posted at <http://www.usac.org/sl/tools/samples.aspx> for more information on each of the fields in the Report. USAC is also sending this information to your service provider(s) for informational purposes. If USAC has determined the service provider is also responsible for any rule violation on the FRN(s), a separate letter will be sent to the service provider detailing the necessary service provider action.

Note that if the Funds Disbursed to Date amount is less than the Adjusted Funding Commitment amount, USAC will continue to process properly filed invoices up to the Adjusted Funding Commitment amount. Review the Funding Commitment Adjustment Explanation in the attached Report for an explanation of the reduction to the commitment(s). Please ensure that any invoices that you or your service provider(s) submits to USAC are consistent with SLP rules as indicated in the Funding Commitment Adjustment Explanation. If the Funds Disbursed to Date amount exceeds your Adjusted Funding Commitment amount, USAC will have to recover some or all of the disbursed funds. The Report explains the exact amount (if any) the applicant is responsible for repaying.

Schools and Libraries Program  
Universal Services Administrative Company

cc: George Dallas  
Total Systems Integration (TSI), Inc.

**Funding Commitment Adjustment Report for  
Form 471 Application Number: 1050868**

Funding Request Number:	2870470
Services Ordered:	INTERNAL CONNECTIONS
SPIN:	143011790
Service Provider Name:	Total Systems Integration (TSI), Inc.
Contract Number:	N/A
Billing Account Number:	2164858100
Site Identifier:	129516
Original Funding Commitment:	\$166,430.97
Commitment Adjustment Amount:	\$166,430.97
Adjusted Funding Commitment:	\$0.00
Funds Disbursed to Date	\$0.00
Funds to be Recovered from Applicant:	\$0.00
Funding Commitment Adjustment Explanation:	

**Finding 1**

After a thorough investigation, it has been determined this funding commitment must be rescinded in full. The applicant failed to demonstrate that price of eligible products and services was the primary factor in the vendor selection process. FCC rules require that applicants select the most cost-effective product and/or service offering with price being the primary factor in the vendor selection process. Applicants may take other factors into consideration, but in selecting the winning bid, price must be given more weight than any other single factor. Ineligible products and services may not be factored into the cost-effective evaluation. Since the applicant failed to demonstrate that price of eligible products and services was the primary factor in the vendor selection process, the commitment has been rescinded in full.

**Finding 2**

After a thorough investigation, it has been determined that this funding commitment must be rescinded in full. The applicant did not have a valid, signed contract and/or a legally binding agreement in place at the time of submission of the FCC Form 471. This determination was based on documentation submitted during a Special Compliance Review. Specifically, the only document provided during the review was a contract signed by the service provider only and no documentation was submitted to establish that a legally binding agreement was in place between the school district and the service provider at the time of submission of the FCC Form 471. FCC rules require applicants to have a valid contract and/or a legally binding agreement as defined by the applicant's state procurement laws and regulations at the time they submit the FCC Form 471. Since the applicant was unable to demonstrate that they had a contract or a legally binding agreement in place at the time of submission of the FCC Form 471 that meets the state laws definition of a valid contract or legally binding agreement, the commitment has been rescinded in full.

Mark Gleichauf  
BROOKLYN CITY SCHOOL DISTRICT  
9200 Biddulph Road  
Brooklyn, OH 44144-2614

**Applicant:** BROOKLYN CITY SCHOOL DISTRICT  
**Billed Entity Number:** 129516  
**Date Submitted:** Apr 16, 2015

**Application Number:** 1050868  
**Nickname:** FY15\_471\_Priority\_2  
**Date Certified:** Apr 16, 2015

Original Form Data ✓

Current Form Data

Current form data is not available until a funding commitment decision has been made and an FCDL has been sent to the applicant.

Basic Information

Expand All Collapse All Scroll to Top

### Billed Entity

**Name of Billed Entity:** BROOKLYN CITY SCHOOL DISTRICT  
**Billed Entity Number:** 129516  
**FCC Registration Number:** 0002915490  
**Address 1:** 9200 BIDDULPH RD  
**City:** BROOKLYN **State:** OH **Zip Code:** 44144 - 2614  
**Telephone Number:** (216) 485-8100 **Ext:** None Provided  
**Fax Number:** (216) 485-8118

### Application Type and Recipients of Service

**Type of Application:** District  
**Recipients of Services:** Public

### Contact Information

**Contact Person's Name:** Todd Hopkins  
**Contact Person's Email Address:** todd.hopkins@brooklyn.k12.oh.us  
**Is the contact person's address the same as that of the Billed Entity?** No  
**Contact Person's Address:** 9200 Biddulph Road  
**City:** Brooklyn **State:** OH **Zip Code:** 44144  
**Contact Person's Telephone Number:** (216) 485-8115 **Ext:** None Provided  
**Contact Person's Fax Number:** (216) 485-8161  
**Correspondence Address:** BEN address  
**Name of person to receive correspondence:** Todd Hopkins  
**Holiday / Summer Contact Information:**

Discount Calculation

Expand All Collapse All Scroll to Top

**Funding Request Category:** Category 2

BROOKLYN CITY SCHOOL DISTRICT - 129516

Entities

Billed Entity Number	Entity Name	NCES Code	Urban or Rural	NIF	State LEA ID	State School ID	# of Students Full or Part-Time	Student Count Based on Est. ?	Alt. Disc.	Attributes	Pre-Discount Entity Category 2 Budget	Post-Discount Entity Category 2 Budget
48177	BROOKLYN HIGH SCHOOL	390436 5200	U	No		003780	583	No			\$87,450.00	\$69,960.00
175666	BROOKLYN MIDDLE SCHOOL	390436 500538	U	No		122143	362	No			\$54,300.00	\$43,440.00
48179	BROOKRIDGE ELEMENTARY SCHOOL	390436 5201	U	No		003814	446	No			\$66,900.00	\$53,520.00

Entities

Optional Worksheet

Entity #	Entity Name	Urban Rural	Number of Students Attending This School as Their Home School	If Using CEP, Percentage of Direct Certification Students	Total Number of Students in School Eligible for NSLP
----------	-------------	-------------	---	---	--



48177	BROOKLYN HIGH SCHOOL	U	583	279
175666	BROOKLYN MIDDLE SCHOOL	U	362	195
48179	BROOKRIDGE ELEMENTARY SCHOOL	U	446	265

Optional Worksheet

## Discount Rate Calculation

Overall Urban/Rural Status	Total Number of Students Enrolled in District	Total Number of Students in District Eligible for NSLP	Percentage of Students in District Eligible for NSLP	Category 2 Discount Rate
U	1391	739	53%	80%

BROOKLYN CITY SCHOOL DISTRICT - 129516

## Connectivity Questions

Does the school district (or school, if not part of a district) have Internet access of

- ☒ less than 100 Mbps per 1,000 users (students and staff) true
- ☐ at least 100 Mbps per 1,000 users but less than 1Gbps per 1,000 users
- ☐ at least 1 Gbps per 1,000 users

How many of the schools in the school district have Wide Area Networking connections that are scalable to 10 Gbps? 0

How many schools in your school district have LAN/WLAN capacity and coverage

- completely sufficient to support the educational or library activities conducted here? 0
- mostly sufficient to support the educational or library activities conducted here? 3
- sometimes sufficient to support the educational or library activities conducted here? 0
- rarely sufficient to support the educational or library activities conducted here? 0
- not sufficient to support the educational or library activities conducted here? 0

For those schools and libraries that do not have sufficient LAN/WLAN capacity and coverage to support the educational objectives or library activities conducted at that location, is the reason (check all that apply):

- ☒ Equipment too costly
- ☒ Installation too costly
- ☐ Broadband connection speed to building is too slow
- ☐ Inadequate local area network (LAN) services/internal networks and wiring
- ☒ Outdated equipment
- ☐ Lack of training and technical support
- ☐ Inconsistent service/frequent outages and down time
- ☐ Physical structure or layout of building(s)
- ☐ Other: If so, please provide it here

Priority 2 - 2870470

### Key Information

**Duplicate Funding Request Number:**

**Service Type:** INTERNAL CONNECTIONS

**Form470 Number:** 640750001345519

**Exempt470 Reason:**

**SPIN (Service Provider Identification Number):**

143011790

**SPIN Name:** Total Systems Integration (TSI), Inc.

**Billing Account Number:** 2164858100

**Purchase Type:** CONTRACT

**Contract Number:** N/A

**What is the date you awarded your contract?** 04/16/2015

**What is the date your contract expires?** 06/30/2016

**When will the services start?** 05/20/2015

### When will the services end?

**Does your contract have any voluntary extensions?** No

**How many extensions are left on the contract?**

**What is the total remaining length of the contract if you exercised all extensions (in months)?**

**Is this Funding Request covered under a master contract?** No

**Is this Funding Request a continuation of an FRN from a previous funding year based on a multi-year contract?**

No

**Previous FRN Number:**

**Narrative:**

## LAN/WiFi Upgrade

**Is there a statute, rule, or other restriction which prohibits publication of the pricing information?** No

**Type of restriction:**

**Restriction Citation:**

Item 21 Details

FRN Line Item Number	Connection Type	Product Type	Quantity	Unit	Make	Model	Lease Agreement?	Monthly Cost Eligible	One Time Cost Eligible
								Ineligible	Ineligible
⊕ 1	Data Distribution	Switch	1	Each	Hewlett Packard	J9825A	No	\$0.00	\$7,531.20
								\$0.00	\$0.00
⊕ 2	Data Distribution	Switch	4	Each	Hewlett Packard	J9538A	No	\$0.00	\$7,949.55
								\$0.00	\$0.00
⊕ 3	Data Distribution	Switch	2	Each	Hewlett Packard	J9534A	No	\$0.00	\$2,983.58
								\$0.00	\$0.00
⊕ 4	Data Distribution	Switch	2	Each	Hewlett Packard	J9830A	No	\$0.00	\$2,157.58
								\$0.00	\$0.00
⊕ 5	Data Distribution	Switch	16	Each	Hewlett Packard	J9150A_	No	\$0.00	\$2,163.20
								\$0.00	\$0.00
⊕ 6	Data Distribution	Switch	4	Each	Hewlett Packard	J4859C	No	\$0.00	\$841.70
								\$0.00	\$0.00
⊕ 7	Cabling/Connectors	Cabling	20	Each	Other: Hubbell	FO_PC	No	\$0.00	\$633.20
								\$0.00	\$0.00
⊕ 8	Cabling/Connectors	Cabling	140	Each	Other: Hubbell	CU_PC	No	\$0.00	\$646.80
								\$0.00	\$0.00
⊕ 9	Data Distribution	Switch	3	Each	Hewlett Packard	J9729A	No	\$0.00	\$6,469.30
								\$0.00	\$0.00
⊕ 10	Data Distribution	Switch	3	Each	Hewlett Packard	J9733A	No	\$0.00	\$2,217.05
								\$0.00	\$0.00
⊕ 11	Data Distribution	Switch	1	Each	Hewlett	J9731A	No	\$0.00	\$729.11



								\$0.00	\$0.00	
+	12	Data Distribution	Switch	2	Each	Hewlett Packard	J9150A_	No	\$0.00	\$270.40
								\$0.00	\$0.00	
+	13	Cabling/Connectors	Cabling	2	Each	Other: Hubbell	FO_PC	No	\$0.00	\$61.16
								\$0.00	\$0.00	
+	14	Cabling/Connectors	Cabling	144	Each	Other: Hubbell	CU_PC	No	\$0.00	\$665.28
								\$0.00	\$0.00	
+	15	Data Distribution	Switch	1	Each	Hewlett Packard	J9729A	No	\$0.00	\$2,156.44
								\$0.00	\$0.00	
+	16	Data Distribution	Switch	1	Each	Hewlett Packard	J9733A	No	\$0.00	\$739.02
								\$0.00	\$0.00	
+	17	Data Distribution	Switch	1	Each	Hewlett Packard	J9731A	No	\$0.00	\$729.11
								\$0.00	\$0.00	
+	18	Data Distribution	Switch	2	Each	Hewlett Packard	J9150A_	No	\$0.00	\$270.40
								\$0.00	\$0.00	
+	19	Cabling/Connectors	Cabling	2	Each	Other: Hubbell	FO_PC	No	\$0.00	\$61.16
								\$0.00	\$0.00	
+	20	Cabling/Connectors	Cabling	48	Each	Other: Hubbell	CU_PC	No	\$0.00	\$221.76
								\$0.00	\$0.00	
+	21	Data Distribution	Switch	2	Each	Hewlett Packard	J9729A	No	\$0.00	\$4,312.87
								\$0.00	\$0.00	
+	22	Data Distribution	Switch	2	Each	Hewlett Packard	J9733A	No	\$0.00	\$1,478.04
								\$0.00	\$0.00	
+	23	Data Distribution	Switch	1	Each	Hewlett Packard	J9731A	No	\$0.00	\$729.11
								\$0.00	\$0.00	
+	24	Data Distribution	Switch	2	Each	Hewlett Packard	J9150A_	No	\$0.00	\$270.40
								\$0.00	\$0.00	
+	25	Cabling/Connectors	Cabling	2	Each	Other: Hubbell	FO_PC	No	\$0.00	\$61.16
								\$0.00	\$0.00	
+	26	Cabling/Connectors	Cabling	96	Each	Other: Hubbell	CU_PC	No	\$0.00	\$443.52
								\$0.00	\$0.00	
+	27	Data Distribution	Switch	3	Each	Hewlett Packard	J9729A	No	\$0.00	\$6,469.30
								\$0.00	\$0.00	
+	28	Data Distribution	Switch	3	Each	Hewlett Packard	J9733A	No	\$0.00	\$2,217.05
								\$0.00	\$0.00	
+	29	Data Distribution	Switch	1	Each	Hewlett Packard	J9731A	No	\$0.00	\$729.11
								\$0.00	\$0.00	
+	30	Data Distribution	Switch	2	Each	Hewlett Packard	J9150A_	No	\$0.00	\$270.40
								\$0.00	\$0.00	
								\$0.00	\$61.16	

[illegible]

[illegible]

+	70	Caching	Caching Equipment	1	Each	Other: Appliansys	1-CAC-230	No	\$0.00	\$7,009.02
									\$0.00	\$0.00
+	71	Caching	Caching Equipment	1	Each	Other: Appliansys	1-CAC-230-5YR	No	\$0.00	\$4,713.26
									\$0.00	\$0.00
+	72	Cabling/Connectors	Cabling	3	Each	Other: Hubbell	IDF_FIBER	No	\$0.00	\$6,372.00
									\$0.00	\$0.00
+	73	Racks	Racks and Cabinets	2	Each	Other: Hubbell	DATA_CAB	No	\$0.00	\$3,776.00
									\$0.00	\$0.00
+	74	Cabling/Connectors	Cabling	55	Each	Other: Hubbell	WAP_CBL	No	\$0.00	\$9,735.00
									\$0.00	\$0.00

#### Item 21 Details

#### Funding Request Summary

Total Post Discount Request: \$201,587.52

## Monthly Charges

<b>Total Charges:</b>	\$0.00 (monthly)
<b>Ineligible charges:</b>	- \$0.00 (monthly)
<b>Eligible monthly pre-discount amount:</b>	\$0.00
<b>Total number of months of service:</b>	x 12
<b>Total annual recurring charges:</b>	<b>\$0.00</b>

## Total One-time Charges

<b>Total Charges:</b>	\$251,984.40
<b>Ineligible charges:</b>	- \$0.00
<b>Eligible annual pre-discount amount:</b>	<b>\$251,984.40</b>

## Total Requested Amount

<b>Total eligible charges:</b>	\$251,984.40
<b>Discount Rate:</b>	x 80%
<b>Funding Commitment Request:</b>	<b>\$201,587.52</b>

#### Priority 2 - 2870470

Certifications & Signatures

Expand All

Collapse All

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I certify that the entities listed in Block 4 of this application are eligible for support because they are:

✓ schools under the statutory definitions of elementary and secondary schools found in the No Child Left Behind Act of 2001, 20 U.S.C. §§ 7801(18) and (38), that do not operate as for-profit businesses and do not have endowments exceeding \$50 million; and/or

✓ I certify that the entity I represent or the entities listed on this application have secured access, separately or through this program, to all of the resources, including computers, training, software, internal connections, maintenance, and electrical capacity, necessary to use the services purchased effectively. I recognize that some of the aforementioned resources are not eligible for support. I certify that the entities I represent or the entities listed on this application have secured access to all of the resources to pay the discounted charges for eligible services from funds to which access has been secured in the current funding year. I certify that the Billed Entity will pay the non-discount portion of the cost of the goods and services to the service provider(s).

A	Total funding year pre-discount amount on this FCC Form 471	\$251,984.40
B	Total funding commitment request amount on this FCC Form 471	\$201,587.52
C	Total applicant non-discount share	\$50,396.88
D	Total budgeted amount allocated to resources not eligible for E-rate support	\$150,000.00
E	Total amount necessary for the applicant to pay the non-discount share of the services requested on this application AND to secure access to the resource necessary to make effective use of the discounts	\$200,396.88

☐ Check this box if you are receiving any of the funds in Item E directly from a service provider listed on any of the FCC Forms 471 filed by this Billed Entity for this funding year, or if a service provider listed on any of the FCC Forms 471 filed by this Billed Entity for this funding year assisted you in locating funds in Item E.

✓ I certify that an FCC Form 470 was posted and that any related RFP was made available for at least 28 days before considering all bids received and selecting a service provider. I certify that all bids submitted were carefully considered and the most cost-effective service offering was selected, with price being the primary factor considered, and is the most cost-effective means of meeting educational needs and technology goals.

✓ I certify that the entity responsible for selecting the service provider(s) has reviewed all applicable FCC, state, and local procurement/competitive bidding requirements and that the entity or entities listed on this application have complied with them.

✓ I certify that the services the applicant purchases at discounts provided by 47 U.S.C. § 254 will be used primarily for educational purposes, see 47 C.F.R. § 54.500 and will not be sold, resold or transferred in consideration for money or any other thing of value, except as permitted by the Commission's rules at 47 C.F.R. §§ 54.500, 54.513. Additionally, I certify that the entity or entities listed on this application have not received anything of value or a promise of anything of value, other than services and equipment sought by means of this form, from the service provider, or any representative or agent thereof or any consultant in connection with this request for services.

✓ I certify that I and the entity(ies) I represent have complied with all program rules, including recordkeeping requirements, and I acknowledge that failure to do so may result in denial of discount funding and/or cancellation of funding commitments. There are signed contracts or other legally binding agreements covering all of the services listed on this FCC Form 471 except for those services provided under non-contracted tariffed or month-to-month arrangements. I acknowledge that failure to comply with program rules could result in civil or criminal prosecution by the appropriate law enforcement authorities.

✓ I acknowledge that the discount level used for shared services is conditional, for future years, upon ensuring that the most disadvantaged schools and libraries that are treated as sharing in the service, receive an appropriate share of benefits from those services.

✓ I certify that I will retain required documents for a period of at least 10 years (or whatever retention period is required by the rules in effect at the time of this certification), after the last day of service delivered. I certify that I will retain all documents necessary to demonstrate compliance with the statute and Commission rules regarding the application for, receipt of, and delivery of services receiving schools and libraries discounts, and that if audited, I will make such records available to the Administrator. I acknowledge that I may be audited pursuant to participation in the schools and libraries program.

✓ I certify that I am authorized to order telecommunications and other supported services for the eligible entity(ies) listed on this application. I certify that I am authorized to submit this request on behalf of the eligible entity(ies) listed on this application, that I have examined this request, that all of the information on this form is true and correct to the best of my knowledge, that the entities that are receiving discounts pursuant to this application have complied with the terms, conditions and purposes of the program, that

no kickbacks were paid to anyone and that false statements on this form can be punished by fine or forfeiture under the Communications Act, 47 U.S.C. §§ 502, 503(b), or fine or imprisonment under Title 18 of the United States Code, 18 U.S.C. § 1001 and civil violations of the False Claims Act.

✓ I acknowledge that FCC rules provide that persons who have been convicted of criminal violations or held civilly liable for certain acts arising from their participation in the schools and libraries support mechanism are subject to suspension and debarment from the program. I will institute reasonable measures to be informed, and will notify USAC should I be informed or become aware that I or any of the entities listed on this application, or any person associated in any way with my entity and/or the entities listed on this application, is convicted of a criminal violation or held civilly liable for acts arising from their participation in the schools and libraries support mechanism.

✓ I certify that if any of the Funding Requests on this FCC Form 471 are for discounts for products or services that contain both eligible and ineligible components, that I have allocated the eligible and ineligible components as required by the Commission's rules at 47 C.F.R. § 54.504(g)(1), (2).

✓ I certify that the non-discount portion of the costs for eligible services will not be paid by the service provider. The pre-discount costs of eligible services featured on this FCC Form 471 are net of any rebates or discounts offered by the service provider. I acknowledge that, for the purpose of this rule, the provision, by the provider of a supported service, of free services or products unrelated to the supported service or product constitutes a rebate of some or all of the cost of the supported services.

#### Authorized Person

**Name of authorized person:** Cynthia J. Walker

**Title or position of authorized person:** Superintendent

**Street address, P.O. Box or Route Number of authorized person (1):** 9200 Biddulph Road

**Street address, P.O. Box or Route Number of authorized person (2):**

**City of authorized person:** Brooklyn

**State:** OH

**Zip code of authorized person:** 44144

**Telephone number:** (216) 485-8110

**Ext.:**

**Fax number of authorized person:** (216) 485-8118

**Email address of authorized person:**

cynthia.walker@brooklyn.k12.oh.us

**Name of authorized person's employer:** Brooklyn City Board of Education

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Back



Universal Service Administrative Company  
Schools & Libraries Division

### Administrator's Decision on Appeal – Funding Year 2015-2016

June 16, 2017

Lynn M. Larson  
Walter Haverfield LLP  
The Tower at Erieview  
1301 East 9th Street, Ste. 3500  
Cleveland, OH 44114-1821

Re: Applicant Name: BROOKLYN CITY SCHOOL DISTRICT  
Billed Entity Number: 129516  
Form 471 Application Number: 1050868  
Funding Request Number(s): 2870470  
Your Correspondence Dated: May 23, 2017

After review of the information and documentation provided, the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC) has made its decision in regard to your appeal of USAC's decision to adjust the funding commitment amount for the FCC Form 471 Application and funding request number(s) (FRN(s)) referenced above. This letter provides an explanation for USAC's decision. The date of this letter also begins the sixty (60) day time period for appealing this decision. If your Letter of Appeal included more than one FCC Form 471 Application Number, please note that you will receive a separate decision for each funding application.

Funding Request Number(s): 2870470  
Decision on Appeal: **Partially Approved, Funding Denied**  
Explanation:

- Your appeal has brought forward persuasive information that you did have a legally binding agreement in place at the time of the submission of the FCC Form 471, however, FCC rules require that applicants select the most cost-effective products and/or services offering with price being the primary factor. In your appeal, you failed to provide evidence that price was the primary factor, therefore, your appeal is denied.
- FCC rules require that applicants select the most cost-effective products and/or services offering with price being the primary factor. Applicants may take other factors into consideration, but in selecting the winning bid, price must be given more weight than any other single factor. See 47 C.F.R. sec. 54.511(a); also,



Request for Review of the Decision of the Universal Service Administrator by Ysleta Independent School District, El Paso, Texas, et al., Federal-State Joint Board on Universal Service, Changes to the Board of Directors of the National Exchange Carrier Association, Inc., SLD Nos. 321479, et al., CC Docket Nos. 96-45, 97-21, Order, 18 FCC Rcd 26407, 26429, FCC 03-313 para. 50 (rel. Dec. 8, 2003). Ineligible products and services may not be factored into the cost-effective evaluation. *See* Common Carrier Bureau Reiterates Services Eligible for Discounts to Schools and Libraries, CC Docket No. 96-45, Public Notice, 13 FCC Rcd 16570, DA 98-1110 (rel. Jun. 11, 1998).

If you wish to appeal this decision, you may file an appeal pursuant to 47 C.F.R. Part 54, Subpart I. Detailed instructions for filing appeals are available at:  
<http://www.usac.org/sl/about/program-integrity/appeals.aspx>.

We thank you for your continued support, patience and cooperation during the appeal process.

Schools and Libraries Division  
Universal Service Administrative Company



Todd Hopkins  
Brooklyn City School District  
9200 Biddulph Road  
Brooklyn, OH 44144

Billed Entity Number: 129516  
Form 471 Application Number: 1050868  
Form 486 Application Number:

## Schools and Libraries Universal Service Description of Services Requested and Certification Form 470

Estimated Average Burden Hours per Response: 3 hours

This form is designed to help you describe the eligible services you seek so that this data can be posted on the Fund Administrator Internet Site and interested service providers can identify you as a potential customer and compete to serve you.

Please read instructions before beginning this form.

Form 470 Application Number: 640750001345519	Applicant's Form Identifier: FY16-Priority2
Application Status: CERTIFIED	Posting Date: 03/19/2015
Allowable Contract Date: 04/16/2015	Certification Received Date: 03/19/2015

**Block 1: Applicant Address and Information**

1 Name of Applicant:  
BROOKLYN CITY SCHOOL DISTRICT

2 Funding Year: 2015 (Funding years run from July 1 through the following June 30)

3 Entity Number: 129516

4a Street Address, P.O.Box, or Route Number:  
9200 BIDDULPH RD

City: BROOKLYN State: OH Zip Code: 44144 -2614

4b Telephone Number: (216) 485 -8100

4c Fax Number: (216) 485 -8118

5a Eligible Entities That Will Receive Services:

Check the ONE choice in 5a that best describes the eligible entities that will receive the services described in this form. You will then list in Item 15 the entity/entities that will pay the bills for these services.

☐ Individual School (individual public or non-public school)

☒ School District (LEA; public or non-public [e.g., diocesan] local district representing multiple schools)

☐ Library (including library system, library outlet/branch or library consortium as defined under LSTA)

☐ Consortium (intermediate service agencies, states, state networks, consortia of schools and/or libraries)

☐ Statewide application for (enter 2-letter state code)  
representing (check all that apply)

☐ All public schools/districts in the state

☐ All non-public schools in the state

☐ All libraries in the state

5b Recipient(s) of Services - Check all that apply:

☐ Private ☒ Public ☐ Charter

☐ Tribal ☐ Head Start ☐ State Agency

5c Number of eligible entities for which services are sought: 3

**Block 1: Applicant Address and Information (continued)**

6a Contact Person's Name:  
Todd Hopkins

If the Contact Person's Street Address is the same as Item 4a above, check here. ☐ If not, complete Item 6b.

6b Street Address, P.O.Box, or Route Number:  
NOTE: USAC will use this address to mail correspondence  
9200 BIDDULPH RD

City: BROOKLYN State: OH Zip Code: 44144 -2614

Check the box next to your preferred mode of contact and provide your contact information. One box MUST be checked and an entry provided.

☐ 6c Telephone Number: (216) 485 -8115

☐ 6d Fax Number: (216) 485 -8118

☒ 6e E-Mail Address: todd.hopkins@brooklyn.k12.oh.us

Re-enter E-mail Address: todd.hopkins@brooklyn.k12.oh.us

If a consultant is assisting you with your application process, please complete Item 7 below:

7 Consultant Name:  
Name of Consultant's Employer:  
Consultant's Street Address:

City: State: Zip Code:

Consultant's Telephone Number: Ext.

Consultant's Fax Number:

Consultant's E-mail Address:

Re-enter E-mail Address:

Consultant Registration Number:



Entity Number: 129516	Applicant's Form Identifier: FY16-Priority2
Contact Person: Todd Hopkins	Phone Number: (216) 485-8115
<b>Block 2: Summary Description of Needs or Services Requested</b>	
8 Category One: Internet Access and/or Telecommunications	
<i>If you check YES to indicate you have a Request for Proposals (RFP) that specifies the services you are seeking, your RFP must be available to all interested bidders for at least 28 days. If your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.</i>	
<p>a <input type="checkbox"/> YES, I have released or intend to release an RFP for one or more of these services. It is available or will become available on the Internet at:</p> <p>or via (check one) <input type="checkbox"/> the contact person in Item 6 or <input type="checkbox"/> the contact person listed in Item 12</p> <p>Your RFP Identifier:</p>	
<p>b <input type="checkbox"/> NO, I have not released and do not intend to release an RFP for any of these services.</p> <p>Whether you check YES or NO, you must list below the Internet access and/or telecommunications you seek. Specify each service (e.g., voice service, monthly Internet access service, etc) and quantity and/or capacity (e.g., for voice service, 20 existing lines plus 10 new ones, or for monthly Internet access service, for 500 users).</p>	
9 [Reserved]	

<b>Entity Number: 129516</b>	<b>Applicant's Form Identifier: FY16-Priority2</b>
<b>Contact Person: Todd Hopkins</b>	<b>Phone Number: (216) 485-8115</b>

**10 Category Two: Internal Connections and Managed Internal Broadband Services**

*If you check YES to indicate you have a Request for Proposals (RFP) that specifies the services you are seeking, your RFP must be available to all interested bidders for at least 28 days. If your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.*

a ☐ YES, I have released or intend to release an RFP for one or more of these services. It is available or will become available on the Internet at:  
or via (check one) ☐ the contact person in Item 6 or ☐ the contact person listed in Item 12  
Your RFP Identifier:

b ☒ NO, I have not released and do not intend to release an RFP for any of these services.

Whether you check YES or NO, you must list below the Internal Connections and Managed Internal Broadband Services you seek. Specify each service (e.g., a router, hub and cabling) and quantity and/or capacity (e.g., connecting 1 classroom of 30 students).

Service	Quantity and/or Capacity
HP 2920-48G-POE+ switches with Stacking Modules and SFP+ Uplink Ports or equivalent	Up to 30
HP 5412R Switch with 34 SFP+ Ports and 140 POE+ Ports and 2 2750W Power Supplies or equivalent	1
HP 10 Gig SR SFP Transceivers or equivalent	Up to 40
HP 1 Gig LR SFP Transceivers or equivalent	Up to 10
Fiber Patch Cords	Up to 40
Eaton 3KVA UPS with SNMP Management or equivalent	Up to 6
Eaton 2KVA UPS with SNMP or equivalent	Up to 12
HP 560 802.11ac Access Points or equivalent	Up to 200
HP MSM775 Wireless Controller with Licenses and Management Software	1
10 Gig Fiber Links from MDF to IDFs	3 runs up to 600' each
CAT6 Plenum Cable Drops	Up to 200
Hubbell Deep Data Cabinets with Wire Minders or equivalent	2
CAT-6 Patch Cords	Up to 1500
Turn Key Installation, Testing and Documentation of Network Upgrade, Wireless APs and Cabling	1
Internet Caching Server	1
Bonjour Gateway	1

**11 Category Two: Basic Maintenance of Internal Connections**

*If you check YES to indicate you have a Request for Proposals (RFP) that specifies the services you are seeking, your RFP must be available to all interested bidders for at least 28 days. If your RFP is not available to all interested bidders, or if you check NO and you have or intend to have an RFP, you risk denial of your funding requests.*

a ☐ YES, I have released or intend to release an RFP for these services. It is available or will become available on the Internet at:  
or via (check one) ☐ the contact person in Item 6 or ☐ the contact person listed in Item 12  
Your RFP Identifier:

b ☐ NO, I have not released and do not intend to release an RFP for these services.

Whether you check YES or NO, you must list below the Basic Maintenance services you seek. Specify each service (e.g., basic maintenance of routers) and quantity and/or capacity (e.g., for 10 routers).

--	--

<b>Entity Number: 129516</b>	<b>Applicant's Form Identifier: FY16-Priority2</b>
<b>Contact Person: Todd Hopkins</b>	<b>Phone Number: (216) 485-8115</b>

**12 (Optional)** Please name the person on your staff or project who can provide additional technical details or answer specific questions from service providers about the services you are seeking. This person does not need to be the contact person(s) listed in Item 6 nor the Authorized Person who signs this form.

Name:  
Todd Hopkins

Title:  
Treasurer

Telephone Number: (216) 485 - 8115

Fax Number: (216) 485 - 8118

Email Address: todd.hopkins@brooklyn.k12.oh.us

Re-enter E-mail Address: todd.hopkins@brooklyn.k12.oh.us

**13** ☐ Check this box if there are any restrictions imposed by state or local laws or regulations on how or when service providers may contact you or on other bidding procedures. Please describe below any such restrictions or procedures and/or provide an Internet address where they are posted and a contact name and telephone number.

☐ Check this box if no state and local procurement/competitive bidding requirements apply to the procurement of services sought on this FCC Form 470. If you are requesting services for a funding year for which an FCC Form 470 cannot yet be filed online, include that information here.

---

**Block 3:**

**14. [Reserved]**

Entity Number: 129516	Applicant's Form Identifier: FY16-Priority2
Contact Person: Todd Hopkins	Contact Phone Number: (216) 485-8115
<b>Block 4: Recipients of Service</b>	
<b>15 Billed Entities</b> List the entity/entities that will be paying the bills directly to the provider for the services requested in this form. These are known as Billed Entities. At least one line of this item must be completed. If a Billed Entity cited on your FCC Form 471 is not listed below, funding may be denied for the funding requests associated with this FCC Form 470. Attach additional pages if needed.	
<b>Entity Number</b> 129516	<b>Entity Name</b> BROOKLYN CITY SCHOOL DISTRICT

Entity Number: 129516		Applicant's Form Identifier: FY16-Priority2	
Contact Person: Todd Hopkins		Contact Phone Number: (216) 485-8115	
<b>Block 5: Certifications and Signature</b>			
16	I certify that the applicant includes: (Check one or both.)		
a <input checked="" type="checkbox"/>	schools under the statutory definitions of elementary and secondary schools found in the <b>No Child Left Behind Act of 2001, 20 U.S.C. §§ 7801 (18) and (38)</b> , that do not operate as for-profit businesses, and do not have endowments exceeding \$50 million; and/or		
b <input type="checkbox"/>	libraries or library consortia eligible for assistance from a State library administrative agency under the Library Services and Technology Act of 1996 that do not operate as for-profit businesses and whose budgets are completely separate from any schools (including, but not limited to elementary and secondary schools, colleges, and universities).		
17	[Reserved]		
18	<input checked="" type="checkbox"/> I certify that I will post my FCC Form 470 and (if applicable) make any applicable RFP available for at least 28 days before considering all bids received and selecting a service provider, I certify that all bids submitted will be carefully considered and the bid selected will be for the most cost-effective service or equipment offering, with price being the primary factor, and will be the most cost-effective means of meeting educational needs and technology goals.		
19	<input checked="" type="checkbox"/> I certify that I will retain required documents for a period of at least 10 years (or whatever retention period is required by the rules in effect at the time of this certification) after the last day of service delivered. I certify that I will retain all documents necessary to demonstrate compliance with the statute and Commission rules regarding the form for, receipt of, and delivery of services receiving schools and libraries discounts. I acknowledge that I may be audited pursuant to participation in the schools and libraries program.		
20	<input checked="" type="checkbox"/> I certify that the services the applicant purchases at discounts provided by 47 U.S.C. § 254 will be used primarily for educational purposes, see 47 C.F.R. § 54.500, and will not be sold, resold or transferred in consideration for money or any other thing of value, except as permitted by the Commission's rules at 47 C.F.R. § 54.513. Additionally, I certify that the entity or entities listed on this form have not received anything of value or a promise of anything of value, other than services and equipment sought by means of this form, from the service provider, or any representative or agent thereof or any consultant in connection with this request for services.		
21	<input checked="" type="checkbox"/> I acknowledge that support under this support mechanism is conditional upon the school(s) and/or library(ies) I represent securing access, separately or through this program, to all of the resources, including computers, training, software, internal connections, maintenance, and electrical capacity necessary to use the services purchased effectively. I recognize that some of the aforementioned resources are not eligible for support. I certify that I have considered what financial resources should be available to cover these costs.		
22	<input checked="" type="checkbox"/> I certify that I am authorized to procure eligible services for the eligible entity(ies). I certify that I am authorized to submit this request on behalf of the eligible entity(ies) listed on this form, that I have examined this request, and to the best of my knowledge, information, and belief, all statements of fact contained herein are true.		
23	<input checked="" type="checkbox"/> I certify that I have reviewed all applicable FCC, state, and local procurement/competitive bidding requirements and that I have complied with them. I acknowledge that persons willfully making false statements on this form may be punished by fine or forfeiture, under the Communications Act, 47 U.S.C. §§ 502, 503(b), or fine or imprisonment under Title 18 of the United States Code, 18 U.S.C. § 1001.		
24	<input checked="" type="checkbox"/> I acknowledge that FCC rules provide that persons who have been convicted of criminal violations or held civilly liable for certain acts arising from their participation in the schools and libraries support mechanism are subject to suspension and debarment from the program.		
Entity Number: 129516		Applicant's Form Identifier: FY16-Priority2	
Contact Person: Todd Hopkins		Contact Phone Number: (216) 485-8115	
25	Signature of authorized person: <input checked="" type="checkbox"/>		26 Date: 03/19/2015
27a	Printed name of authorized person: Cynthia J. Walker		
27b	Title or position of authorized person: Superintendent  <input type="checkbox"/> Check here if the consultant in Item 7 is the Authorized Person.		
27c	Street Address, P.O. Box, Route Number, City, State, Zip Code:  9200 Biddulph Road  City: Brooklyn State: OH Zip Code: 44144		
27d	Telephone Number of Authorized Person: <u>(216) 485-8110</u>		
27e	Fax Number of Authorized Person: <u>(216) 485-8118</u>		
27f	E-mail Address of Authorized Person: cynthia.walker@brooklyn.k12.oh.us  Re-enter E-mail Address: cynthia.walker@brooklyn.k12.oh.us		
27g	Name of Authorized Person's Employer: Brooklyn Board of Education		
Service provider involvement with preparation or certification of an FCC Form 470 can taint the competitive bidding process and result in the denial of funding requests. For more information, refer to the Schools and Libraries area of the USAC web site at <a href="http://www.usac.org/sl">www.usac.org/sl</a> or call the SLD Client Service Bureau at 1-888-203-8100.			

<b>Entity Number:</b> 129516	<b>Applicant's Form Identifier:</b> FY16-Priority2
<b>Contact Person:</b> Todd Hopkins	<b>Phone Number:</b> (216) 485-8115

**NOTICE:** In accordance with Section 54.503 of the Federal Communications Commission's rules, certain schools and libraries ordering services that are eligible for and seeking universal service discounts must file this Description of Services Requested and Certification Form (FCC Form 470) with the Universal Service Administrator, 47 C.F.R. § 54.503(c). The collection of information stems from the Commission's authority under Section 254 of the Communications Act of 1934, as amended, 47 U.S.C. § 254. The data in the report will be used to ensure that schools and libraries comply with the competitive bidding requirement contained in 47 C.F.R. § 54.503. Schools and libraries must file this form themselves or as part of a consortium.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

The FCC is authorized under the Communications Act of 1934, as amended, to collect the information we request in this form. We will use the information you provide to determine whether approving this application is in the public interest. If we believe there may be a violation or a potential violation of any applicable statute, regulation, rule or order, your application may be referred to the Federal, state, or local agency responsible for investigating, prosecuting, enforcing, or implementing the statute, rule, regulation or order. In certain cases, the information in your application may be disclosed to the Department of Justice or a court or adjudicative body when (a) the FCC; or (b) any employee of the FCC; or (c) the United States Government is a party of a proceeding before the body or has an interest in the proceeding. In addition, information provided in or submitted with this form or in response to subsequent inquiries may also be subject to disclosure consistent with the Communications Act of 1934, FCC regulations, the Freedom of Information Act, 5 U.S.C. § 552, or other applicable law.

If you owe a past due debt to the federal government, the information you provide may also be disclosed to the Department of the Treasury Financial Management Service, other Federal agencies and/or your employer to offset your salary, IRS tax refund or other payments to collect that debt. The FCC may also provide the information to these agencies through the matching of computer records when authorized.

If you do not provide the information we request on the form, the FCC may delay processing of your application or may return your form without action.

The foregoing Notice is required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 44 U.S.C. § 3501, *et seq.*

Public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the reporting burden to the Federal Communications Commission, Performance Evaluation and Records Management, Washington, DC 20554.

FCC Form 470  
October 2014

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# netech

YOUR NETWORK, ANYWHERE

## Brooklyn City Schools 1G Network

# COL009388 Version 1  
2/19/2015

**Submitted by:**

Kate Firestine  
614-602-8123 (office)  
[kfirestine@netechcorp.com](mailto:kfirestine@netechcorp.com)

Jeff Runkle  
614-831-1203 (office)  
[jrunkle@netechcorp.com](mailto:jrunkle@netechcorp.com)



Part Number	Description	Qty	Price	Ext. Price
<b>Products</b>				
	<b>MDF</b>			
WS-C3850-24P-S	Cisco Catalyst 3850 24 Port PoE IP Base	2	\$3,431.00	\$6,862.00
CAB-TA-NA	North America AC Type A Power Cable	2	\$0.00	\$0.00
C3850-NM-4-1G	Cisco Catalyst 3850 4 x 1GE Network Module	2	\$235.00	\$470.00
S3850UK9-33SE	CAT3850 Universal k9 image	2	\$0.00	\$0.00
STACK-T1-50CM	50CM Type 1 Stacking Cable	2	\$0.00	\$0.00
CAB-SPWR-30CM	Catalyst 3750X and 3850 Stack Power Cable 30 CM	2	\$0.00	\$0.00
PWR-C1-715WAC	715W AC Config 1 Power Supply	2	\$0.00	\$0.00
CON-SNT-WS-C384PS	SMARTNET 8X5XNBD Cisco Catalyst 3850 24 Port PoE IP Base	2	\$306.60	\$613.20
	<b>HS IDF #1 2nd Flr Storage</b>			
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$3,287.65	\$3,287.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-1M	Cisco FlexStack 1m stacking cable	1	\$47.00	\$47.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	1	\$210.00	\$210.00
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	2	\$3,287.65	\$6,575.30
CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$561.65	\$1,123.30
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	2	\$0.00	\$0.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	2	\$210.00	\$420.00
	<b>HS IDF #6 1st Flr Storage</b>			
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	2	\$3,287.65	\$6,575.30
CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$561.65	\$1,123.30
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	2	\$0.00	\$0.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	2	\$210.00	\$420.00
	<b>HS IDF #2 Cafeteria</b>			
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$3,287.65	\$3,287.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	1	\$210.00	\$210.00
	<b>PK7 IDF 111</b>			
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	2	\$3,287.65	\$6,575.30
CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$561.65	\$1,123.30
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	2	\$0.00	\$0.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	2	\$210.00	\$420.00
	<b>PK&amp; IDF 126</b>			

Part Number	Description	Qty	Price	Ext. Price
<b>Products</b>				
WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,159.65	\$2,159.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
NET-SNT-WSC604DL	Netech Maintenance 8X5XNBD Catalyst 2960-X 24 G	1	\$138.00	\$138.00
WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,757.65	\$3,757.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
NET-SNT-WSC296XL	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	1	\$240.00	\$240.00
	<b>PK7 IDF 211</b>			
WS-C2960X-48LPD-L	Catalyst 2960-X 48 GigE PoE 370W 2 x 10G SFP+ LAN Base	2	\$3,287.65	\$6,575.30
CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$561.65	\$1,123.30
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	2	\$0.00	\$0.00
NET-SNT-WSC48LPD	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 G	2	\$210.00	\$420.00
	<b>PK7 IDF 220</b>			
WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,159.65	\$2,159.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
NET-SNT-WSC604DL	Netech Maintenance 8X5XNBD Catalyst 2960-X 24 G	1	\$138.00	\$138.00
WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,757.65	\$3,757.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
NET-SNT-WSC296XL	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	1	\$240.00	\$240.00
	<b>PK7 IDF 235</b>			
WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	2	\$3,757.65	\$7,515.30
CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$561.65	\$1,123.30
CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	2	\$0.00	\$0.00
NET-SNT-WSC296XL	Netech Maintenance 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	2	\$240.00	\$480.00
WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,159.65	\$2,159.65
CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00

Part Number	Description	Qty	Price	Ext. Price
<b>Products</b>				
C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$561.65	\$561.65
CAB-STK-E-1M	Cisco FlexStack 1m stacking cable	1	\$47.00	\$47.00
NET-SNT-WSC604DL	Netech Maintenance 8X5XNBD Catalyst 2960-X 24 G	1	\$138.00	\$138.00
	<b>PK7 1Gb MM Fiber SFP</b>			
GLC-SX-MMD=	1000BASE-SX SFP transceiver module MMF 850nm DOM	10	\$235.00	\$2,350.00
	<b>PK7 Wireless AP</b>			
MR32-HW	Preliminary US GPL- MR32 Cloud-Managed 802.11ac Access Point	66	\$375.53	\$24,784.98
	<b>HS Wireless AP</b>			
MR32-HW	Preliminary US GPL- MR32 Cloud-Managed 802.11ac Access Point	46	\$375.53	\$17,274.38
	<b>Meraki 1 Year License</b>			
LIC-ENT-1YR	Preliminary US GPL - Meraki MR Ent License 1 Year	112	\$70.50	\$7,896.00
	<b>Meraki 3 Year License (Alternate Option)</b>			
LIC-ENT-3YR	Preliminary US GPL - Meraki MR Ent License 3 Years	112*	\$141.00	\$15,792.00

Products \*Optional Amount: **\$15,792.00**

Products Subtotal: **\$127,191.01**

## 1G Network

**Prepared by:**

**Netech**

Kate Firestine  
614-602-8123  
Fax 614-336-7807  
kfirestine@netechcorp.com

**Inside Sales Rep**

Jeff Runkle  
614-831-1203  
jrunkle@netechcorp.com

**Prepared for:**

**Brooklyn City Schools**

Brooklyn, OH  
Heidi Rhodes  
heidi.rhodes@brooklyn.k12.oh.us

**Information:**

**Ref ID: COL009388**

Version: 1

Delivery Date: 02/19/2015

Expiration Date: 04/20/2015

## Summary

Description	Amount
Products	\$127,191.01

**Total: \$127,191.01**

## \*Options

Description	Amount
Products	\$15,792.00

Taxes, shipping, handling and other fees may apply. We reserve the right to cancel orders arising from pricing or other errors.

Product will be invoiced when delivered.

Signature

Date





# Bailey Communications Inc.

The Network Is UP!

Main: 1.877.807.0300  
 Fax: 440.327.1853  
 Email: ebailey@baileynetworks.co  
 Web: www.baileynetworks.com

## Prepared For

Brooklyn City Schools  
 Todd Hopkins  
 9200 Biddulph Rd  
 Brooklyn, OH 44144  
 todd.hopkins@brooklyn.k12.oh.us

## Prepared By

Erica Bailey  
 Phone: 440-327-1813  
 Email: ebailey@baileynetworks.com

Product		Price	Qty	Extended
WS-C2960X-48FPS-L	<p>Cisco Catalyst 2960X-48FPS-L Ethernet Switch - 48 Ports - Manageable - 48 x POE - 4 x Expansion Slots - 10/100/1000Base-T - PoE Ports - Rack-mountable, Desktop</p> <p>Catalyst 2960-X series Software Features            All Catalyst 2960-X Series Switches use a single Universal Cisco IOS Software Image for all SKUs. Depending on the switch model, the Cisco IOS image automatically configures either the LAN Lite, LAN Base, or IP Lite feature set. LAN Lite models have reduced functionality and scalability for small deployments with basic requirements. Cisco Catalyst 2960-X Family of Switches are available with the LAN Base and LAN Lite feature sets and Catalyst 2960-XR Family of switches are available IP Lite feature sets.</p>	\$4,286.75	10	\$42,867.50
C2960X-STACK=	Cisco Spare FlexStack-Plus Hot-Swappable Stacking Module - For Stacking	\$776.75	20	\$15,535.00
WS-C2960X-48TS-L	<p>Cisco Catalyst 2960X-48TS-L Ethernet Switch - 48 Ports - Manageable - 48 x RJ-45 - 4 x Expansion Slots - 10/100/1000Base-T - Rack-mountable, Desktop</p> <p>Catalyst 2960-X series Software Features            All Catalyst 2960-X Series Switches use a single Universal Cisco IOS Software Image for all SKUs. Depending on the switch model, the Cisco IOS image automatically configures either the LAN Lite, LAN Base, or IP Lite feature set. LAN Lite models have reduced functionality and scalability for small deployments with basic requirements. Cisco Catalyst 2960-X Family of Switches are available with the LAN Base and LAN Lite feature sets and Catalyst 2960-XR Family of switches are available IP Lite feature sets.            Note that each switch model is tied to a specific feature level; LAN Lite cannot be upgraded to LAN Base and LAN Base cannot be upgraded to IP Lite.</p>	\$2,726.75	11	\$29,994.25
GLC-SX-MMD=	<p>Cisco SFP (mini-GBIC) Module - 1 x 1000Base-SX</p> <p>The industry-standard Cisco Small Form-Factor Pluggable (SFP) Gigabit Interface Converter is a hot-swappable input/output device that plugs into a Gigabit Ethernet port or slot, linking the port with the network. SFPs can be used and interchanged on a wide variety of Cisco products and can be intermixed in combinations of 1000BASE-T, 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-EX, 1000BASE-ZX, or 1000BASE-BX10-D/U on a port-by-port basis.</p>	\$325.00	32	\$10,400.00
GLC-T=	<p>Cisco GLC-T 1000BASE-T SFP Gigabit Interface Converter - 1 x 1000Base-T</p> <p>The Cisco industry-standard 1000BASE-T Small Form-factor Pluggable (SFP) gigabit interface converter (GBIC) is a hot-swappable input/output device that plugs into a Gigabit Ethernet port or slot, linking the port with the network. The Cisco SFP provides full-duplex Gigabit Ethernet connectivity to high-end workstations and between wiring closets over existing copper network infrastructure.</p>	\$256.75	8	\$2,054.00



Product		Price	Qty	Extended
WS-C4500X-32SFP+	<p>Cisco Catalyst 4500-X Ethernet Switch - Manageable - 32 x Expansion Slots - 10/100/1000Base-T - Rack-mountable, Desktop</p> <p>Cisco Catalyst 4500-X Series provides scalable, fixed-campus aggregation solutions in space-constrained environments. The solution provides flexibility to build desired port density through two versions of base switches along with optional uplink module. Both the 32- and 16-port versions can be configured with optional network modules and offer similar features. The Small Form-Factor Pluggable Plus (SFP+) interface supports both 10 Gigabit Ethernet and 1 Gigabit Ethernet ports, allowing customers to use their investment in 1 Gigabit Ethernet SFP and upgrade to 10 Gigabit Ethernet when business demands change, without having to do a comprehensive upgrade of the existing deployment. The uplink module is hot swappable.</p>	\$18,200.00	1	\$18,200.00
C4KX-PWR-750AC-R	Cisco Catalyst 4500-X 750W AC Front-to-Back Cooling Power Supply - 110 V AC, 220 V AC	\$1,300.00	1	\$1,300.00
C4KX-PWR-750AC-R/2	Cisco 4500X Redundant Power Supply Cisco 4500X Redundant Power Supply	\$1,300.00	1	\$1,300.00
AIR-CT5508-100-K9	<p>Cisco Aironet 5508 Wireless Controller - 1 x 10/100/1000Base-T , 1 x 10/100/1000Base-T , 1 x 10/100/1000Base-T - 8 x SFP (mini-GBIC), 1 x Expansion Slot</p> <p>The Cisco 5508 Wireless Controller is a highly scalable and flexible platform that enables system wide services for mission-critical wireless in medium to large-sized enterprises and campus environments. Designed for 802.11n performance and maximum scalability, it offers enhanced uptime with the ability to simultaneously manage 100 access points superior performance for reliable streaming video and toll quality voice; and improved fault recovery for a consistent mobility experience in the most demanding environments.</p>	\$25,996.75	1	\$25,996.75
AIR-CAP2602E-AK910	<p>Cisco Aironet 2602E IEEE 802.11n 450 Mbps Wireless Access Point - ISM Band - UNII Band - Ceiling Mountable - 10 Pack</p> <p>The new Cisco® Aironet® 2600 Series Access Point delivers the most advanced features in its class - with great performance, functionality, and reliability at a great price. The 802.11n based Aironet 2600 Series includes 3x4 MIMO, with three spatial streams, plus Cisco CleanAir™ ClientLink 2.0™ and VideoStream technologies, to help ensure an interference-free, high-speed wireless application experience. Second only to the Cisco Aironet 3600 Series in performance and features, the Aironet 2600 Series sets the new standard for enterprise wireless technology.</p>	\$7,767.50	11	\$85,442.50
AIR-CAP2602E-A-K9	<p>Cisco Aironet 2602E IEEE 802.11n 450 Mbps Wireless Access Point - ISM Band - UNII Band - 1 x Network (RJ-45) - PoE Ports - Desktop</p> <p>The new Cisco® Aironet® 2600 Series Access Point delivers the most advanced features in its class - with great performance, functionality, and reliability at a great price. The 802.11n based Aironet 2600 Series includes 3x4 MIMO, with three spatial streams, plus Cisco CleanAir™ ClientLink 2.0™ and VideoStream technologies, to help ensure an interference-free, high-speed wireless application experience. Second only to the Cisco Aironet 3600 Series in performance and features, the Aironet 2600 Series sets the new standard for enterprise wireless technology.</p>	\$776.75	2	\$1,553.50



# Bailey Communications Inc.

The Network Is UP!

Main: 1.877.807.0300  
Fax: 440.327.1853  
Email: ebailey@baileynetworks.com  
Web: www.baileynetworks.com

Product		Price	Qty	Extended
AIR-ANT2524DB-R=	Cisco Aironet AIR-ANT2524DB-R Antenna - 4 dBiDipole The next generation of Cisco Aironet 802.11n access points -the Cisco Aironet 3600e Series and 1550 Series- requires the use of dual-band external antennas to make them fully functioning units. As these access points take greater advantage of the multiple-input multiple-output (MIMO) features supported under the 802.11n standard, the number of radio transceivers per frequency band has increased. Using dual-band antenna ports allows the access point to support these added transceivers while maintaining a reasonably low number of antenna connections. Each dual-band antenna can transmit or receive Wi-Fi signals in both the 2.4-GHz and 5-GHz bands simultaneously.	\$25.35	448	\$11,356.80
LIC-CT5508-25A	Cisco 5500 Series Wireless Controller - License - 25 Access Point	\$8,121.75	1	\$8,121.75
P71-07822	Microsoft Windows Server 2012 R.2 Datacenter - License - 2 Processor - Volume, Academic, Microsoft Qualified - MOLP: Open License for Academic - PC - Single Language	\$1,469.65	1	\$1,469.65
R18-04271	Microsoft Windows Server 2012 - License - 1 Device CAL - Academic, Volume - MOLP: Open License for Academic - PC - Single Language	\$7.04	112	\$788.48
CBL-FIBER	3 Meter 62.5 Micron Fiber Patch cables	\$35.00	32	\$1,120.00
Product Subtotal		\$257,500.18		

Service		Price	Qty	Extended
SVC-CONFIG	Network Gear Installation and Configuration	\$120.00	80	\$9,600.00
SVC-CONFIG	Server Configuration	\$120.00	4	\$480.00
SVC-CONFIG	Wireless Access Point Mounting	\$65.00	40	\$2,600.00
Quote #5310 - Network Upgrade 2G is valid for 30 days				
Service Subtotal		\$12,680.00		

Recap		Amount
Product		\$257,500.18
Service		\$12,680.00
Total		\$270,180.18

Taxes, shipping, handling and other fees may apply. We reserve the right to cancel orders arising from pricing or other errors.





5885 Grant Ave.  
Cleveland, Ohio 44105  
Ph: (216) 271-4800  
Fax: (216) 271-0084

## QUOTE

<b>Quote #</b>	SSIQ40413
<b>Date</b>	1/22/2015
<b>Sales Rep.</b>	Amanda Gray

### Quote To:

Brooklyn City Schools

9200 Biddulph Rd  
Brooklyn, Oh 44114

(216) 485-8100

Qty	Manf Part #	Description	Sell Price	Ext. Price
1	J9643A	HP 5412 zl Switch with Premium Software	\$3,029.93	\$3,029.93
4	J9306A#ABA	HP 1500W PoE+ zl Power Supply	\$659.40	\$2,637.60
2	J9534A	HP 24-port Gig-T PoE+ v2 zl Module	\$1,429.93	\$2,859.86
5	J9550A	HP 24-port Gig-T v2 zl Module	\$2,173.46	\$10,867.30
1	J9548A	20PORT GIG-T/2PORT SFP+ V2 ZL MOD	\$2,634.64	\$2,634.64
1	J9152A	PROCURVE 10GB SFP+LRM TRANSCEIVER LINEAR	\$596.24	\$596.24
1	J9535A	20PORT GIG-T POE+/4PORT SFP V2 ZL MOD	\$2,371.11	\$2,371.11
12	J9772A	HP 2530-48G-PoE+ Switch	\$1,886.18	\$22,634.16
7	J4858C	HP X121 1G SFP LC SX Transceiver	\$214.12	\$1,498.84
2	J9836A#ABA	HP 2920-48G-PoE+ 740W Switch	\$3,016.75	\$6,033.50
1	J4860C	HP X121 1G SFP LC LH Transceiver	\$2,634.64	\$2,634.64
1	J4858C	HP X121 1G SFP LC SX Transceiver	\$214.12	\$214.12
2	J9733A	HP 2920 2-port Stacking Module	\$671.34	\$1,342.68
1	J9728A#ABA	HP 2920-48G Switch	\$1,909.27	\$1,909.27
1	J9733A	HP 2920 2-port Stacking Module	\$671.34	\$671.34
3	J9772A#ABA	HP 2530-48G-PoE+ Switch	\$1,886.18	\$5,658.54
1	J4858C	HP X121 1G SFP LC SX Transceiver	\$214.12	\$214.12
1	J4860C	HP X121 1G SFP LC LH Transceiver	\$2,634.64	\$2,634.64
1	J9775A#ABA	HP 2530-48G Switch	\$958.59	\$958.59
2	J9736A	HP 2920 3.0m Stacking Cable	\$196.99	\$393.98
1	7210-128-K12	Aruba 7210 K-12 EDU Bundle, 128 License and Support.	\$21,790.59	\$21,790.59
124	AP-205	Aruba AP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas	\$467.06	\$57,915.44
124	AW-K12-1	Aruba Networks AirWave - License - 1 Device	\$38.61	\$4,787.64
124	1011-00	Oberon Rt angle Bracket	\$68.32	\$8,471.68

Qty	Manf Part #	Description	Sell Price	Ext. Price
			<hr/>	
SubTotal				\$164,760.45
Sales Tax				\$0.00
Shipping/Handling				\$0.00
			<hr/>	
<b>Total</b>				<b>\$164,760.45</b>

Prices valid for 30 days please reconfirm thereafter. Price based on total purchase unless otherwise stated. Training or consulting service and configuration not included, billable at our published rates. All products are covered by manufacturers warranty only - Any additional coverage must be specifically mentioned in the quote. No other warranties express or implied. We shall not be liable for any loss of business profits or goodwill, data or any other damages. Items are only returnable with approval and a restocking fee if unused and complete including packing material.



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## QUOTE

<b>Quote #</b>	SSIQ40426
<b>Date</b>	1/22/2015
<b>Sales Rep.</b>	Amanda Gray

### Quote To:

Brooklyn City Schools

9200 Biddulph Rd  
Brooklyn, Oh 44114

(216) 485-8100

Qty	Manf Part #	Description	Sell Price	Ext. Price
40		<p>Define/plan and Design</p> <p>Define/Plan</p> <p>As Brooklyn Schools has given BTSS an equipment list and desired coverage we will be presenting this proposal based on those numbers. If BTSS is awarded the contract we would like to sit down with district personnel and map out exact expectations and do some additional survey work to ensure the proposed wireless network meets expectations of the district.</p> <p>There are many connecting pieces to a successful wireless implementation. These can include</p> <ol style="list-style-type: none"> <li>1. Server configurations (DHCP setup, routing, etc)</li> <li>2. Building to Building connectivity</li> <li>3. Existing cabling infrastructure</li> <li>4. Building construction</li> </ol> <p>These type of items are discussed and finalized in our Define/Plan phase.</p> <p>Hours: 24 hours</p> <p>Design</p> <p>The district has provided BTSS with an estimated AP count. If possible BTSS would like to provide some predictive site surveys. These are not conducted onsite, but are done with prints that the school hopefully can provide that will put some science behind AP placement. This also includes equipment placement and deployment schedule.</p> <p>Hours: 16 hours</p>	\$187.50	\$7,500.00
154		<p>Installation / Implementation</p> <p>5412 installation: 16 hours (MDF IP setup and configuration)</p> <p>Elementary School: Install configure and rack and patch in 6 switches in elementary school closet. 32 hours</p> <p>Bus Garage:</p>	\$136.00	\$20,944.00

Qty	Manf Part #	Description	Sell Price	Ext. Price
		Install, configure and rack single switch. 2 hours		
		High School/Middle School: Install configure and rack 12 switches in HS/MS building. 64 hours		
		Aruba Configuration: Note: Does not include AP mounting or cabling Configure AP policy and ensure all Aps have been patched in to the network Tune Access points and test coverage in select areas (Optimize) 40 hours		

SubTotal	\$28,444.00
Sales Tax	\$0.00
Shipping/Handling	\$0.00
<b>Total</b>	<b>\$28,444.00</b>

The amount provided is a good faith estimate based on the information we have at this time. If there is a change in scope or other factors, additional charges may apply at standard hourly rates.

Prices valid for 30 days please reconfirm thereafter. Price based on total purchase unless otherwise stated. Training or consulting service and configuration not included, billable at our published rates. All products are covered by manufacturers warranty only - Any additional coverage must be specifically mentioned in the quote. No other warranties express or implied. We shall not be liable for any loss of business profits or goodwill, data or any other damages. Items are only returnable with approval and a restocking fee if unused and complete including packing material.



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mounted and tested for coverage. If a special bracket for wall mounting is required for signal performance, we will meet with the district to determine appropriate adjustments and proceed accordingly.

## VI. Materials & Cost Detail

Line Number	Item Name	Description	QTY	Unit Price	Extended Price
<b>Switching Infrastructure Total</b>					
1.0	WS-C4500X-16SFP+	Catalyst 4500-X 16 Port 10G IP Base Front-to-Back No P/S	1	\$7,680.00	\$7,680.00
1.1	C4KX-PWR-750AC-R	Catalyst 4500X 750W AC front to back cooling power supply	1	\$960.00	\$960.00
1.2	C4500X-IPB	IP Base license for Catalyst 4500-X	1	\$0.00	\$0.00
1.3	C4KX-PWR-BLANK	Catalyst 4500X power supply Blank	1	\$0.00	\$0.00
1.4	C4KX-NM-BLANK	Catalyst 4500X Network Module Blank	1	\$0.00	\$0.00
1.5	CAB-US515-C15-US	NEMA 5-15 to IEC-C15 8ft US	1	\$0.00	\$0.00
1.6	S45XU-35-1521E	CAT4500-X Universal Image	1	\$0.00	\$0.00
1.7	SFP-10G-LRM	10GBASE-LRM SFP Module	1	\$477.60	\$477.60
2.0	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	11	\$3,837.60	\$42,213.60
2.1	CAB-16AWG-AC	AC Power cord 16AWG	11	\$0.00	\$0.00
2.2	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	11	\$0.00	\$0.00
2.3	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	11	\$573.60	\$6,309.60
2.4	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	11	\$0.00	\$0.00
3.0	CAB-MCP-LC=	Mode Conditioning Patch cable; LC connector	6	\$240.00	\$1,440.00
4.0	WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	4	\$2,205.60	\$8,822.40
5.0	CAB-16AWG-AC	AC Power cord 16AWG	4	\$0.00	\$0.00
5.1	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	4	\$0.00	\$0.00
6.0	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	4	\$573.60	\$2,294.40
6.1	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	4	\$0.00	\$0.00
7.0	SFP-10G-LRM=	10GBASE-LRM SFP Module	6	\$477.60	\$2,865.60
8.0	SFP-10G-SR=	10GBASE-SR SFP Module	2	\$477.60	\$955.20
9.0	SFP-10G-SR=	10GBASE-SR SFP Module	10	\$477.60	\$4,776.00
10.0	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	2	\$3,837.60	\$7,675.20
11.0	CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
<b>Switching Infrastructure Total</b>					<b>\$86,469.60</b>

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Wireless Infrastructure					
12	MR32-HW	MR32 CLOUD MANAGED	79	\$345.00	\$27,255.00
13	LIC-ENT-3Y	3YR LIC AND SUP MR ENTERPRISE	79	\$129.25	\$10,210.75
Wireless Total					\$37,465.75
Grand Total Hardware / Software Infrastructure					\$123,935.35

Maintenance – Next Business Day Parts					
14	CON-SNT- WSC16SFX	SMARTNET 8X5XNBD Catalyst 4500-X 16 Port 10G IP Base	1	\$810.00	\$810.00
15	CON-SNT- WSC296XL	SMARTNET 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	11	\$360.00	\$3,960.00
16	CON-SNT- WSC604DL	SMARTNET 8X5XNBD Catalyst 2960-X 24 G	4	\$207.00	\$828.00
17	CON-SNT- WSC296XL	SMARTNET 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	2	\$360.00	\$720.00
Total 12 Months Maintenance - Switching					\$6,318.00*

**NOTES:** Switches with 48 Ports are capable of 15watts per port. If less power per port is required, the District is able to reduce cost on the 48 port switches.

**MAINTENANCE** - Maintenance is shown for 12 months. A three (3) year / 36 month option is available and special pricing applies. Maintenance coverage is shown for Next Business Day Parts Replacement, TAC Support 24x365, and IOS/software upgrades. Other options are available on a per part basis.

**\*Maintenance – All 48 and 24 Port Switches come with an Enhanced Limited Lifetime Warranty. This provides break/fix on the switches but does not include TAC Support. Please see below for details on Enhanced Warranty. The District may save over \$4,000 per YEAR by utilizing this coverage.**

**WIRELESS** - Meraki is a cloud based and managed solution. NO CONTROLLER required. Easy and intuitive interface. Layer 7 (Application) Visibility and Control are Included. ALL SUPPORT, SOFTWARE UPGRADES and BREAK/FIX are INCLUDED. This model does require a renewable license. A three year license is shown and would need to be renewed in three years.

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## VII. Cost Summary

Access Points	\$37,465.75
Switches	\$86,469.60
Maintenance	\$6,318.00*
Professional Services	<u>\$11,335.00</u>
Total	\$141,588.35

***\*Maintenance – All 48 and 24 Port Switches come with an Enhanced Limited Lifetime Warranty. This provides break/fix on the switches but does not include TAC Support. Please see below for details on Enhanced Warranty. The District may save over \$4,000 per YEAR by utilizing this coverage.***

## VIII. Equipment Information

### Catalyst 2960 Switches

The Cisco® Catalyst® 2960-X Series Switches (Figure 1) are stackable fixed-configuration Gigabit Ethernet (10/100/1000) switches offering network connectivity for enterprise, midmarket, and branch locations. They enable reliable and secure business operations with lower total cost of ownership through a range of innovative features, including Cisco FlexStack-Plus, application visibility and control, Power over Ethernet Plus (PoE+), innovative power management, and Smart Operations.

The Cisco Catalyst 2960-X models provide Layer 2 switching and have one fixed power supply with an external redundant power supply. They provide 24 or 48 Gigabit Ethernet wire rate ports, PoE/PoE+ support, and four 1G Small Form-Factor Pluggable (SFP) or two 10G SFP+ uplinks. With FlexStack-Plus technology, the Cisco Catalyst 2960-X switches can be stacked up to 8 members with up to 80 Gbps stacking capacity for high scalability.



Communications

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The Cisco Catalyst 2960-XR models offer all the features of the Cisco Catalyst 2960-X. In addition, they have two field-replaceable redundant power supply modules for power redundancy. They also introduce Layer 3 routing functionality for the first time in the Cisco Catalyst 2960 Series

### Features and Capabilities

Designed for operational simplicity to lower TCO, this platform also offers superior security capabilities. The switches deliver best-in-class energy efficiency, while preserving your investments through mixed stacking with existing Catalyst 2960-S and SF switches.

#### Scalable and Resilient

- Allows stacking of up to 8 switches and 80 Gbps bandwidth with the optional Cisco FlexStack+ module
- Provides PoE and PoE+ support with up to 740 W of power (without an external power source)
- Offers control plane redundancy across the switches in the stack
- Provides redundant power supply for power resiliency

#### Smart

- Built with true stacking -- enables cross-stack QoS and cross-stack high availability
- Built for network programmability -- is ready for [onePK](#) and [software-defined networking](#)
- Built for application visibility and control -- NetFlow Lite prioritizes business applications
- Built for Cisco Unified Access -- offers one policy and centralized management

#### Simple

- Automates software installation for zero-touch deployment with Smart Install
- Automatically configures ports based on device type for rapid deployment with Auto Smart Ports
- Offers proactive diagnostics and remediation of hardware and software issues with Smart Call Home

#### Highly Secure

- Uses standards-based 802.1X for port-based network access control
- Helps enable scalable and dynamic role-based access control with Cisco TrustSec
- Protects against IPv6 address theft and malicious attacks with IPv6 First Hop Security

#### Green

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signal performance, we will meet with the district to determine appropriate adjustments and proceed accordingly.

Line Number	Item Name	Description	QTY	Unit Price	Extended Price
<b>Switching Infrastructure</b>					
<b>Aggregation Switch</b>					
<b>MDF</b>					
1	WS-C4500X-16SFP+	Catalyst 4500-X 16 Port 10G IP Base Front-to-Back No P/S	1	\$7,680.00	\$7,680.00
2	C4KX-PWR-750AC-R	Catalyst 4500X 750W AC front to back cooling power supply	1	\$960.00	\$960.00
3	C4500X-IPB	IP Base license for Catalyst 4500-X	1	\$0.00	\$0.00
4	C4KX-PWR-BLANK	Catalyst 4500X power supply Blank	1	\$0.00	\$0.00
5	C4KX-NM-BLANK	Catalyst 4500X Network Module Blank	1	\$0.00	\$0.00
6	CAB-US515-C15-US	NEMA 5-15 to IEC-C15 8ft US	1	\$0.00	\$0.00
7	S45XU-35-1521E	CAT4500-X Universal Image	1	\$0.00	\$0.00
8	SFP-10G-LRM	10GBASE-LRM SFP Module	9	\$477.60	\$4,298.40
<b>Server/User Switch</b>					
9	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
10	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
11	SFP-10G-SR=	10GBASE-SR SFP Module	1	\$477.60	\$477.60
<b>MDF Total</b>					<b>\$17,253.60</b>
<b>Rm111</b>					
<b>PK-7</b>					
13	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	2	\$3,837.60	\$7,675.20
14	CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
15	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	2	\$0.00	\$0.00
16	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$573.60	\$1,147.20
17	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable (stack switches @80Gig)	2	\$0.00	\$0.00
18	SFP-10G-SR=	10GBASE-SR SFP Module	1	\$477.60	\$477.60
<b>Rm 126</b>					
19	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
20	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
21	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
22	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60

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23	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
24	WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,205.60	\$2,205.60
25	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
26	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
27	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
28	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
29	SFP-10G-LRM=	10GBASE-LRM SFP Module	1	\$477.60	\$477.60
<b><u>Rm211</u></b>					
30	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	2	\$3,837.60	\$7,675.20
31	CAB-16AWG-AC	AC Power cord 16AWG	2	\$0.00	\$0.00
32	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	2	\$0.00	\$0.00
33	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	2	\$573.60	\$1,147.20
34	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable (stack switches @80Gig)	2	\$0.00	\$0.00
35	SFP-10G-SR=	10GBASE-SR SFP Module	1	\$477.60	\$477.60
<b><u>Rm 235</u></b>					
36	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
37	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
38	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
39	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
40	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
41	WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,205.60	\$2,205.60
42	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
43	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
44	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
45	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
46	SFP-10G-LRM=	10GBASE-LRM SFP Module	1	\$477.60	\$477.60
<b><u>Rm220</u></b>					
47	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
48	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
49	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00

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50	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
51	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
52	WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,205.60	\$2,205.60
53	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
54	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
55	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
56	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
57	SFP-10G-LRM=	10GBASE-LRM SFP Module	1	\$477.60	\$477.60

**IDF's - PK-7**

**\$41,604.00**

**IDF #1**

**HS**

58	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	3	\$3,837.60	\$11,512.80
59	CAB-16AWG-AC	AC Power cord 16AWG	3	\$0.00	\$0.00
60	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	3	\$0.00	\$0.00
61	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	3	\$573.60	\$1,720.80
62	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable (stack switches @80Gig)	3	\$0.00	\$0.00
63	SFP-10G-SR=	10GBASE-SR SFP Module	1	\$477.60	\$477.60

**IDF #2**

64	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
65	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
66	SFP-10G-SR=	10GBASE-SR SFP Module	1	\$477.60	\$477.60

**IDF#6**

67	WS-C2960X-48FPD-L	Catalyst 2960-X 48 GigE PoE 740W 2 x 10G SFP+ LAN Base	1	\$3,837.60	\$3,837.60
68	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
69	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
70	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
71	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00
72	WS-C2960X-24PD-L	Catalyst 2960-X 24 GigE PoE 370W 2 x 10G SFP+ LAN Base	1	\$2,205.60	\$2,205.60
73	CAB-16AWG-AC	AC Power cord 16AWG	1	\$0.00	\$0.00
74	PWR-CLP	Power Retainer Clip For Cisco 3560-C and 2960-C Compact Swit	1	\$0.00	\$0.00
75	C2960X-STACK	Catalyst 2960-X FlexStack Plus Stacking Module	1	\$573.60	\$573.60
76	CAB-STK-E-0.5M	Cisco FlexStack 50cm stacking cable	1	\$0.00	\$0.00

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77	SFP-10G-LRM=	10GBASE-LRM SFP Module	1	\$477.60	\$477.60
<b>High School IDF's</b>					<b>\$25,694.40</b>
<b>Wireless Infrastructure - PK-7 &amp; HS</b>					
12	MR32-HW	MR32 CLOUD MANAGED	112	\$345.00	\$38,640.00
13	LIC-ENT-3Y	3YR LIC AND SUP MR ENTERPRISE	112	\$129.25	\$14,476.00
<b>Wireless Total</b>					<b>\$53,116.00</b>
14	Patch-10G-Fib	Fiber Patch Cables - 10Gig/OM3 LC/LC	17	\$45.00	\$765.00
<b>Grand Total Hardware / Software Infrastructure</b>					<b>\$138,433.00</b>
<b>Maintenance</b>					
14	CON-SNT-WSC16SFX	SMARTNET 8X5XNBD Catalyst 4500-X 16 Port 10G IP Base	1	\$810.00	\$810.00
15	CON-SNT-WSC296XL	SMARTNET 8X5XNBD Catalyst 2960-X 48 GigE PoE 740W 2 x 10	13	\$360.00	\$4,680.00
16	CON-SNT-WSC604DL	SMARTNET 8X5XNBD Catalyst 2960-X 24 G	4	\$207.00	\$828.00
<b>Total 12 Months Maintenance - Switching</b>					<b>\$6,318.00*</b>

**NOTES:** Switches with 48 Ports are capable of 15watts per port. If less power per port is required, the District is able to reduce cost on the 48 port switches.

**MAINTENANCE** - Maintenance is shown for 12 months. A three (3) year / 36 month option is available and special pricing applies. Maintenance coverage is shown for Next Business Day Parts Replacement, TAC Support 24x365, and IOS/software upgrades. Other options are available on a per part basis.

**\*Maintenance – All 48 and 24 Port Switches come with an Enhanced Limited Lifetime Warranty. This provides break/fix on the switches but does not include TAC Support. Please see below for details on Enhanced Warranty. The District may save over \$4,000 per YEAR by utilizing this coverage.**

**WIRELESS** - Meraki is a cloud based and managed solution. NO CONTROLLER required. Easy and intuitive interface. Layer 7 (Application) Visibility and Control are Included. ALL SUPPORT, SOFTWARE UPGRADES and BREAK/FIX are INCLUDED. This model does require a renewable license. A three year license is shown and would need to be renewed in three years.

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## VI. Cost Summary

<b>Access Points – 112 AP's</b>	<b>\$53,116.00</b>
<b>Switches</b> <i>Fiber Patch cables included in this number</i>	<b>\$85,317.00</b>
<b>Maintenance</b>	<b>\$6,318.00*</b>
<b>Professional Services + Project Mgt</b> <i>Includes Hanging 112 AP's &amp; voice Testing</i>	<b><u>\$17,887.00</u></b>
<b>Total</b>	<b>\$162,638.00</b>

### 10Gig Fiber Installation for High School IDF to MDF

***\*Maintenance – All 48 and 24 Port Switches come with an Enhanced Limited Lifetime Warranty. This provides break/fix on the switches but does not include TAC Support. Please see below for details on Enhanced Warranty. The District may save over \$4,000 per YEAR by utilizing this coverage.***

## VII. Equipment Information

### Catalyst 2960 Switches

The Cisco® Catalyst® 2960-X Series Switches (Figure 1) are stackable fixed-configuration Gigabit Ethernet (10/100/1000) switches offering network connectivity for enterprise, midmarket, and branch locations. They enable reliable and secure business operations with lower total cost of ownership through a range of innovative features, including Cisco FlexStack-Plus, application visibility and control, Power over Ethernet Plus (PoE+), innovative power management, and Smart Operations.

The Cisco Catalyst 2960-X models provide Layer 2 switching and have one fixed power supply with an external redundant power supply. They provide 24 or 48 Gigabit Ethernet wire rate ports, PoE/PoE+ support, and four 1G Small Form-Factor Pluggable (SFP) or two

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# **Technology Engineering Group**

**Proposal for Hardware and Services  
Presented to:**

**Brooklyn City Schools  
Brooklyn Ohio**



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***February 2015***

Technology Engineering Group  
3593 Medina Rd #239  
Medina, OH 44256



On behalf of Technology Engineering Group (TEG), we thank you for the opportunity to provide you with our proposal for a network refresh including switch replacement / augmentation and new access point deployment. We are pleased to provide this aggressively priced competitive proposal for a complete turn-key solution.

## Scope of Work

Technology Engineering Group (TEG) will provide the following equipment and services:

### Item 1 - Network Switch Replacement / Installation

1. Replace all network switches in the existing High Schools MDF/IDFs.
  - a. Included are:
    - i. MDF, HS-IDF1, HS-IDF2, ~~HS-IDF3~~, HS-IDF6
2. Install network switches in new construction areas in IDFs.
  - a. Included are:
    - i. IDF-111, IDF-125, IDF-211, IDF-220, IDF-235

Item 1 will include the following work products:

- De-installation of existing network switches and removal of all copper patch cables.
- Ordering, staging, configuration and installation of new Cisco Meraki switches for the locations identified above. Staging will include an appropriate label showing hostname, IP-Address and any other information deemed required as provided by BCS.
- Replacement of all closet copper patch cables (provided by TEG), installing them in accordance with industry best practices, in a neat and orderly fashion.
- Each switch port will be assigned an appropriate VLAN as well as a description of the devices connected downstream if they are other switches, routers or access points. End-user port descriptions may also be configured if such information is provided by BCS.
- Test / Turn-Up of all network switch hardware, verifying that it is functioning properly by reviewing logs, connectivity and upstream switch event logs.

Note: In order to try and minimize cost of this project, TEG recommends retaining the MDF 3750 switches in the core of the network. This will represent a significant cost save in this project.



## Item 2 – Wireless LAN Replacement / Installation

1. Replace existing access points in scope and install new access points in the new construction areas.

Item 2 will include the following work products:

- De-install existing access points
- Order, stage, configure, and install each new Cisco Meraki access point. Staging will include an appropriate label showing hostname, IP-Address and any other information deemed required as provided by BCS.
- Post Installation coverage review
- SSID creation and integration with the on-site Domain-Controller for authentication by staff and students.
- Creation of additional SSIDs required by BCS personnel.
- Any switch or IP-Address engineering to create appropriate IP Addresses for BYOD. TEG will work with the appropriate BCS technical personnel to make appropriate changes to core switches and routers.
- Creation of access point firewall rules as required.

Both Items 1 and 2 will include TEG setting up and configuring the Cisco Meraki Cloud Controller Dashboard for all access points and switches. TEG will provide a one-time 4 hour on-site training to BCS technical personnel.

In addition, TEG will provide the following as-built documents:

- Site-wide detailed Network Diagram for all switches, routers, firewalls and access points in MS-VISIO format.
- XLS inventory of all hardware installed as part of this engagement.

The intention of this proposal is to provide for a turn-key network system. Any changes in scope and price shall be agreed upon by both parties and formally written up as a change order. No Ethernet drops installations (if required) are included in this proposal.



## **Pricing**

Pricing for this proposal shall be presented in three sections:

1. Switch hardware & licenses
2. Access Point hardware & licenses
3. Services

***The prices shown below are valid until 4/15/2015***

### **Switch hardware & licenses**

Our analysis concludes the following hardware is required:

- (21) Cisco Meraki 48-PORT PoE L2 Switches
- (21) 3-Year Cisco Meraki Switch Licenses
- (11) 1-Meter stack cables
- (10) Multimode fiber SFP transceivers

Cost: \$49,700.00

### **Access point hardware & licenses**

Our analysis concludes the following hardware:

- (96) Cisco Meraki MR18 Access Points
- (96) 3-Year Cisco Meraki Enterprise access point Licenses

The new constructions numbers are best estimates at this point and there may be some variation in the number of access points required.

Cost: \$35,424.00

### **Services**

TEG Services to provide a TURN-KEY end-to-end solution for a wired and wireless communications system as outlined above.

Cost: \$13,250.00

Total Project Cost: \$98,374.00

Please find part quantities, unit prices etc. attached at the end of this proposal.

## **Summary**

We realize you have many choices when it comes to your IT and technologies needs. TEG is interested in developing and creating a lasting partnership with Brooklyn City Schools.

If you are interested in further discussions regarding this proposal, please do not hesitate to let us know.

Respectfully,

Jonathan Strong  
330-807-0108  
jstrong@tegoh.com

Harvey Balas  
(330) 974-1248  
hbalas@tegoh.com

## Appendix A

### Local Project References

#### Gunton Corporation –

Network planning and redesign across 22 offices in the US, implementation and support.

Reference: Mike Slates email: mike\_slates@gunton.com

Phone: 216-831-2420

#### City of Medina Network –

re-design and implementation, daily support and server virtualization, management and support.

Reference: Darin Zaremba email: dzaremba@medinaoh.org

Phone: 440-336-1393

#### Wadsworth City Schools –

district-wide network re-design and implementation/support.

Reference: Phil Luthman email: wadc\_pluthman@wdsworthschools.org

Phone: 330-335-1406

#### North Canton City Schools –

Network Refresh, wired and wireless consultation.

Reference: John Fano email: john@northcantonschools.org

Phone: 330-497-5600

#### Medina City Schools –

Network Refresh, wired and wireless consultation, daily general IT support.

Reference: Procopios Hliatzos email: hliatzosp@mcsch.org

Phone: 216-288-8220

### Misc Information

All Cisco Meraki hardware is under a lifetime warranty and free feature updates while the licenses are maintained. This provides a very robust and cost-effective way to gain new capabilities for zero dollars. Cisco Meraki technical support is based in the USA and is staffed by a very capable 1<sup>st</sup> level support staff. TEG maintains a very close relationship with key Cisco Meraki product development managers. TEG has tested numerous beta features prior to a general availability releases. TEG uses Cisco Meraki powered hardware in our corporate network and we are the largest Cisco Meraki Managed Services provider in Ohio. We use the hardware each day, which gives us a unique perspective for providing feature and function support for our customers.

TEG provided all engineering and implementation services for several school districts. Cisco Meraki performed a case study on our Wadsworth Schools design and implementation. You can watch this Webinar at the following link: <https://www.youtube.com/watch?v=nJFmejuEUxY>

# Brooklyn City Schools Access Point Worksheet

New AP#	Building	Room	IDF/MDF	Item Desc	Model	Qty	Unit Price	Ext Price	AP 3-yr Lic Unit Price	Ext Price
AP-1	HS	189	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-2	HS	187	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-3	HS	179	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-4	HS	177	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-5	HS	173	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-6	HS	West Library 1	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-7	HS	West Library 2	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-8	HS	162	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-9	HS	Office 1	IDF#1	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-10	HS	Office 2	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-11	HS	159	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-12	HS	155	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-13	HS	153	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-14	HS	151	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-15	HS	152	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-16	HS	150	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-17	HS	Chorus	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-18	HS	Band	IDF#6	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-19	HS	Auditorium 1	MDF	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-20	HS	Auditorium 2	MDF	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-21	HS	MDF Room	MDF	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-22	HS	Lobby	MDF	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-23	HS	129	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-24	HS	131	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-25	HS	135	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-26	HS	136	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-27	HS	137	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-28	HS	138	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-29	HS	145	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-30	HS	143	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-31	HS	141	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-32	HS	142	IDF#3	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-33	HS	160	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-34	HS	West Gym OFC	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-35	HS	Cafeteria 1	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-36	HS	Cafeteria 2	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-37	HS	Cafeteria 3	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
AP-38	HS	Cafeteria 4	IDF#2	AP	MR18	1	\$ 252.00	\$ 252.00	\$ 117.00	\$ 117.00
TBD	NEW	Data Room 126	TBD	AP	MR18	14	\$ 252.00	\$ 3,528.00	\$ 117.00	\$ 1,638.00
TBD	NEW	Data Room 235	TBD	AP	MR18	16	\$ 252.00	\$ 4,032.00	\$ 117.00	\$ 1,872.00
TBD	NEW	Data Room 111	TBD	AP	MR18	11	\$ 252.00	\$ 2,772.00	\$ 117.00	\$ 1,287.00
TBD	NEW	Data Room 211	TBD	AP	MR18	14	\$ 252.00	\$ 3,528.00	\$ 117.00	\$ 1,638.00
TBD	NEW	Data Room 220	TBD	AP	MR18	3	\$ 252.00	\$ 756.00	\$ 117.00	\$ 351.00

**\$ 24,192.00**

**\$ 11,232.00**

**AP H/W Cost: \$ 24,192.00**

**AP Lic Cost: \$ 11,232.00**

**AP Grand Total: \$ 35,424.00**

# Brooklyn City Schools Switch Worksheet

Location	Part #	Desc	Qty	Unit Cost	Ext Cost	Comments
HS Replacement Switches						
MDF	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	1	\$ 1,945.00	\$ 1,945.00	Replacing 3524, 3750's staying in place
MDF	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	1	\$ 218.00	\$ 218.00	3-year License
MDF	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
HS-IDF1	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	3	\$ 1,945.00	\$ 5,835.00	
HS-IDF1	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	3	\$ 218.00	\$ 654.00	3-year License
HS-IDF1	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00	Uplink between Meraki switches
HS-IDF1	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
HS-IDF2	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	1	\$ 1,945.00	\$ 1,945.00	
HS-IDF2	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	1	\$ 218.00	\$ 218.00	3-year License
HS-IDF2	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
HS-IDF3	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	2	\$ 1,945.00	\$ 3,890.00	
HS-IDF3	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	2	\$ 218.00	\$ 436.00	3-year License
HS-IDF3	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00	Uplink between Meraki switches
HS-IDF3	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
HS-IDF6	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	3	\$ 1,945.00	\$ 5,835.00	
HS-IDF6	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	3	\$ 218.00	\$ 654.00	3-year License
HS-IDF6	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00	Uplink between Meraki switches
HS-IDF6	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
New Building Switches						
IDF-111	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	2	\$ 1,945.00	\$ 3,890.00	Require:87 Open: 9 ports
IDF-111	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	2	\$ 218.00	\$ 436.00	3-year License
IDF-111	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00	Uplink between Meraki switches
IDF-111	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
IDF-126	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	2	\$ 1,945.00	\$ 3,890.00	Require:56 Open: 40 ports
IDF-126	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	2	\$ 218.00	\$ 436.00	3-year License
IDF-126	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00	Uplink between Meraki switches
IDF-126	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
IDF-211	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	2	\$ 1,945.00	\$ 3,890.00	Require:85 Open: 11 ports
IDF-211	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	2	\$ 218.00	\$ 436.00	3-year License
IDF-211	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00	Uplink between Meraki switches
IDF-211	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
IDF-220	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	2	\$ 1,945.00	\$ 3,890.00	Require:59 Open: 37 ports
IDF-220	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	2	\$ 218.00	\$ 436.00	3-year License
IDF-220	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00	Uplink between Meraki switches
IDF-220	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
IDF-235	MS220-48LP-HW	Meraki MS220-48LP L2 Cloud Managed 48 Port Gige 370W PoE Switch	3	\$ 1,945.00	\$ 5,835.00	Require:101 Open: 43 Ports
IDF-235	LIC-MS220-48LP-3YR	Meraki MS220-48LP License 3-Year	3	\$ 218.00	\$ 654.00	3-year License
IDF-235	MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00	Uplink between Meraki switches
IDF-235	MA-SFP-1GB-SX	Meraki 1000Base SX Multi-Mode	1	\$ 321.00	\$ 321.00	Uplink to Cisco Core Switch
Switch Hardware & Lic Total:					\$ 45,700.00	



Index	Location	Part #	Desc	Qty	Unit Cost	Ext Cost
<b>HS Replacement Switches</b>						
MDF		MS420-24-HW	Meraki MS420-24 L3 Cloud Managed 24 port SFP+ Aggregation Switch	1	\$ 8,337.44	\$ 8,337.44
MDF		LIC-MS420-24-3YR	Meraki MS420-24 Enterprise License and Support, 3 Year	1	\$ 926.62	\$ 926.62
MDF		FAN-MS420-R	Meraki MS420 front-to-back fan	1	\$ 160.50	\$ 160.50
MDF		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	2	\$ 3,509.60	\$ 7,019.20
MDF		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	2	\$ 390.55	\$ 781.10
MDF		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00
MDF		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	9	\$ 642.00	\$ 5,778.00
IDF1		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	3	\$ 3,509.60	\$ 10,528.80
IDF1		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	3	\$ 390.55	\$ 1,171.65
IDF1		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00
IDF1		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
IDF2		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	1	\$ 3,509.60	\$ 3,509.60
IDF2		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	1	\$ 390.55	\$ 390.55
IDF2		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
IDF3		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	3	\$ 3,509.60	\$ 10,528.80
IDF3		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	3	\$ 390.55	\$ 1,171.65
IDF3		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	2	\$ 97.00	\$ 194.00
IDF3		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
<b>New Building Switches</b>						
IDF4		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	2	\$ 3,509.60	\$ 7,019.20
IDF4		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	2	\$ 390.55	\$ 781.10
IDF4		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00
IDF4		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
IDF5		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	2	\$ 3,509.60	\$ 7,019.20
IDF5		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	2	\$ 390.55	\$ 781.10
IDF5		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00
IDF5		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
IDF6		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	2	\$ 3,509.60	\$ 7,019.20
IDF6		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	2	\$ 390.55	\$ 781.10
IDF6		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00
IDF6		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00
IDF7		MS320-48LP-HW	Meraki MS320-48LP L3 Cloud Managed 48 Port GigE 370W PoE Switch	2	\$ 3,509.60	\$ 7,019.20
IDF7		LIC-MS320-48LP-3YR	Meraki MS320-48LP Enterprise License and Support, 3 Year	2	\$ 390.55	\$ 781.10
IDF7		MA-CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Modules, 1 Meter	1	\$ 97.00	\$ 97.00
IDF7		SFP-10GB-SR	Meraki 10G Base SR Multi-Mode	1	\$ 642.00	\$ 642.00

[illegible]



Comments
Dist Switch to catch all IDF's
3-year License
Fan tray assembly
Replacing 3750 and 3524
3-year License
Uplink between Meraki swithes
8 10-Gig SPF to connect 1 ea to IDF's + Spare
Replace existing switches
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion
Replace existing switches
3-year License
UPLINK to MDF Distribuion
Replace existing switches
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion
Require:87 Open: 9 ports
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion
Require:56 Open: 40 ports
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion
Require:85 Open: 11 ports
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion
Require:59 Open: 37 ports
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion

Require:101 Open: 43 Ports
3-year License
Uplink between Meraki swithes
UPLINK to MDF Distribuion

Part Number	Description	Qty	SW Ports	Installed Price
<b>Brooklyn Schools - New Campus 10 Gig POE+ Network</b>				
<b>High School/Middle School - Network Switching - 10 Gig - Lifetime 8x5 NBD Warranty</b>				
<b>Main 10G L3 POE+ Sw with Redundant Supervisors &amp; 92 10/100/1000 POE+ and 34 x 10 GIG SFP+ Ports</b>				
J9825A	HP 5412R-Gig-T-PoE+/SFP+ v2 zl2 Swch	1	92	\$ 7,531.20
J9538A	HP 8-port 10GbE SFP+ v2 zl Module	4		\$ 7,949.55
J9534A	HP 24-port Gig-T PoE+ v2 zl Module	2	48	\$ 2,983.58
J9830A	HP 5400R 2750W PoE+ zl2 Power Supply	2		\$ 2,157.58
J9150A	X132 10G SFP+ LC SR Transceiver	16		\$ 2,163.20
J4859C	HP X121 1G SFP LC LX Transceiver	4		\$ 841.70
FO_PC	Fiber Patch Cord	20		\$ 633.20
CU_PC	Copper Patch Cord	140		\$ 646.80
<b>HS/MS IDF 1</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	3	144	\$ 6,469.30
J9733A	HP 2920 2-port Stacking Module	3		\$ 2,217.05
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	144		\$ 665.28
<b>HS/MS IDF 2</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	1	48	\$ 2,156.44
J9733A	HP 2920 2-port Stacking Module	1		\$ 739.02
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	48		\$ 221.76
<b>HS/MS IDF 6</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	2	96	\$ 4,312.87
J9733A	HP 2920 2-port Stacking Module	2		\$ 1,478.04
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	96		\$ 443.52
<b>PK-7 IDF 111B</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	3	144	\$ 6,469.30
J9733A	HP 2920 2-port Stacking Module	3		\$ 2,217.05
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	144		\$ 665.28
<b>PK-7 IDF 211B</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	3	144	\$ 6,469.30
J9733A	HP 2920 2-port Stacking Module	3		\$ 2,217.05
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	144		\$ 665.28
<b>PK-7 IDF2 220</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				
J9729A	HP 2920-48G-POE+ Switch	2	96	\$ 4,312.87
J9733A	HP 2920 2-port Stacking Module	2		\$ 1,478.04
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	96		\$ 443.52
<b>PK-7 IDF 126A</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtys as required</b>				

HP\_SOLUTION



Part Number	Description	Qty	SW Ports	Installed Price
<b>Brooklyn Schools - New Campus 10 Gig POE+ Network</b>				
<b>High School/Middle School - Network Switching - 10 Gig - Lifetime 8x5 NBD Warranty</b>				
J9729A	HP 2920-48G-POE+ Switch	2	96	\$ 4,312.87
J9733A	HP 2920 2-port Stacking Module	2		\$ 1,478.04
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	96		\$ 443.52
<b>PK-7 IDF 235E</b>				
<b>48 Port POE+ Sw with 2 x 10Gig Uplinks to Core - adjust qtls as required</b>				
J9729A	HP 2920-48G-POE+ Switch	3	144	\$ 6,469.30
J9733A	HP 2920 2-port Stacking Module	3		\$ 2,217.05
J9731A	HP 2920 2-port 10GbE SFP+ Module	1		\$ 729.11
J9150A	X132 10G SFP+ LC SR Transceiver	2		\$ 270.40
FO_PC	Fiber Patch Cord	2		\$ 61.16
CU_PC	Copper Patch Cord	144		\$ 665.28
<b>Total POE+ Ports:</b>			<b>1052</b>	
<b>UPS Units - 2 x 3 KVA in MDF, 1 x 2 KVA in IDFs</b>				
5PX3000RT2U	HP (Eaton) 5PX 3000VA GPH-LCD RK/TWR 2U 120V	3		\$ 3,722.72
5PX2200RT	HP (Eaton) 5PX 2200VA GPH-LCD RK/TWR 2U 120V	8		\$ 8,553.07
NETWORK-MS	HP (Eaton) NETWORK CARD - MS	11		\$ 1,939.25
<b>2 - Server 10 Gig Upgrades</b>				
665249-B21	HP Ethernet 10Gb 2P 560SFP+ Adptr	2		\$ 1,356.35
J9283B	HP X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	4		\$ 277.79
<b>130 - 802.11ac Wireless + 130 Permanent Premium licenses - Lifetime 8x5 NBD Warranty - No ongoing charges</b>				
<b>WAPs</b>				
J9845A	HP 560 Wireless 802.11ac (AM) AP	130		\$ 72,498.85
CU_PC	Copper Patch Cord	130		\$ 600.60
<b>High School - Common</b>				
J9697A	HP MSM Additional 10 AP License	1	10	\$ 404.88
J9371A	HP MSM760/765 Add 40 AP Lic	2	80	\$ 3,036.41
J9840A	HP MSM775 zl Premium Controller Module	1	40	\$ 4,702.97
			<b>130</b>	
<b>Network and Wireless Management System</b>				
JF414AAE	HP IMC Wireless Service Manager Software Module with 50-Access Point E-LTU	1		\$ 1,625.89
JF415AAE	HP IMC Wireless Service Manager 50-Access Point E-LTU	2		\$ 1,851.60
JG747AAE	HP IMC Std SW Plat w/ 50 Nodes E-LTU	1		\$ 2,253.40
<b>Cabling</b>				
IDF_FIBER	10 Gig Fiber Link - IDF to MDF	3		\$ 6,372.00
DATA_CAB	6.5 Foot Deep Data Cabinet w wire minders and doors and rack consolidation/relocation	2		\$ 3,776.00
WAP_CBL	New CAT6 WAP Cable Run	15		\$ 2,655.00
<b>VoIP System</b>				
<b>Avaya IP Office VMWare Server Addition - w/1 PRI, 4 Ana Trk, 4 Ana Lines, 2 Atten Posn, Voice Mail, Call Recording, 124 VOIP Phones</b>				
275618	IPO R9 AV IP ENDPT 1 ADI LIC, LICENSE ONLY - RFA	4		\$ 206.96
275619	IPO R9 AV IP ENDPT 5 ADI LIC, LICENSE ONLY - RFA	4		\$ 948.38
275641	IPO R9 IP500 T1 ADD 8CH ADI LIC, LICENSE ONLY - RFA	2		\$ 918.32
275648	IPO R9 OFF WORKER 1 ADI LIC, LICENSE ONLY - RFA	3		\$ 200.36
275650	IPO R9 OFF WORKER 20 ADI LIC, LICENSE ONLY - RFA	2		\$ 2,472.17
275657	IPO R9 RECEPTIONIST 1 ADI LIC, LICENSE ONLY - RFA	2		\$ 755.83
339092	IP OFFICE R9+ AVAYA IP ENDPOINT 100 ADI LIC:CU, LICENSE ONLY	1		\$ 4,789.71
339100	IP OFFICE R9.1 SERVER EDITION ADI LIC:DS, LICENSE ONLY	2		\$ 3,856.31
405362641	PWR Cord USA	1		\$ 19.79
700213440	IP400 CABLE, ISDN 3M Red	5		\$ 42.23
700289770	IP400 Power Lead Sm Off,406v2 Sml Ofc, 406v2, V2 DS16 & DS30	1		\$ 16.84
700383326	S SERIES RPLCMNT LINE CORD	45		\$ 572.76
700417439	IP500 TRNK PRI UNVRSL SNGL	1		\$ 606.60
700429202	IP500 Rack Mounting Kit	1		\$ 43.32

Part Number	Description	Qty	SW Ports	Installed Price
<b>Brooklyn Schools - New Campus 10 Gig POE+ Network</b>				
<b>High School/Middle School - Network Switching - 10 Gig - Lifetime 8x5 NBD Warranty</b>				
700431778	IP500 Ext Card Phone 2	1	\$	163.68
700476005	IP500 V2 Control Unit -	1	\$	3,296.43
700479710	IP500 V2 System SD Card MU-LAW	1	\$	37.30
700480643	BUTTON MOD 12B, PRODUCT	2	\$	238.45
700504032	IPO MC VCM 64 V2, PRODUCT	1	\$	226.87
700504556	IPO IP500v2 COMBO CARD ATM V2, PRODUCT	1	\$	385.14
700504740	AVAYA B179 SIP CONF PHONE POE ONLY, PRODUCT	2	\$	1,374.18
700504843	IP PHONE 1616-I BLK ICON ONLY, PRODUCT	2	\$	404.81
700505424	IP TELEPHONE 9608G GREY GIGABIT ETHERNET, PRODUCT	43	\$	11,188.52
700507151	AVAYA E129 SIP DESKPHONE, PRODUCT	81	\$	7,147.17
700508798	IP OFFICE/IP OFFICE SELECT R9.1 LINUX INSTALLATION DVD, PRODUCT	1	\$	18.04
271683	IPO RTS 8X5 APR NBD - 500 V2 3YPP, MTC CONTRACT	1	\$	1,327.59
RSI-911	RSI E911 Notification System	1	\$	1,800.00

**BID SHEET ITEM - 01/15/15 - Revised 03/18/15**

<b>BID SHEET PRICE</b>	
\$	108,488.38
\$	86,974.60
\$	12,803.00
\$	43,057.76
\$	251,303.74
<b>Total Package Purchase Price</b>	
\$	83,768.00
<b>Approximate Annual Payment over a 3 Year Period - with 100% Ownership at end of Period (Qualified Customers)</b>	

Full Turn Key Install, Programming, Patching, Configuration, Training, Documentation and Remote Support/Management.

**Includes removal and inventory of existing WAPs, Switches, UPS Units.**

**Includes relocation of existing WAP Drops to proper location based on site survey - we will re-use as many cables as possible and re-purpose some existing Data Drops as required to provide connectivity - where there are no cables we will add new ones based on unit price. An estimate of these cables is provided above - you will be billed up/down based on actual final count.**

Includes **Lifetime Warranty** - 8x5 NBD Replacement, Tech Support, Software Upgrades - Lifetime. Cabling includes 20 year Performance Warranty.

**Note, all UPS units come with a 3 Yr. Warranty (best in industry) and a SNMP Management card.**

No additional on-going charges required.

We assumed the following:

1 - MDF with Central Layer-3 10 Gig Core Switch in High/Middle School MDF - houses wireless and Bonjour Gateway - can replace existing core  
10 Gig Optics included to connect existing Schools

All Sw ports POE +

The Stackable switches can be distributed across the schools as required - we based port count on your existing cables and cable counts in new PK-7

We will re-locate existing MDF equipment into two central Data Cabinets in MDF room - Full Turn Key

**130 -- 802.11ac 1.75 Gbps WAPs based on Owner directions.**

**Removed the VoIP Server - we will install on Owner Provided VM-Ware Server.**

**Applied latest HP Network promos to pricing.**

You can adjust all qtys as required to meet actual needs.

Some Cabling may be needed for WAPs - can adjust as required - we guessed at 15

Please call to discuss final requirements

Part Number	Description	Qty	SW Ports	Installed Price
	Brooklyn Schools - New Campus 10 Gig POE+ Network			
	High School/Middle School - Network Switching - 10 Gig - Lifetime 8x5 NBD Warranty			

Contact: Rita Ludington (419) 545-7093  
TSI SPIN #: 143011790



Vendor	TSI - 10GB fiber	TEC - 10GB fiber	TEG - 10GB fiber
Description of Costs	10GB backbone using HP products with fiber, limited-lifetime product warranty hardware, lifetime software	10 GB using Meraki wireless and Cisco switches, with fiber connection, limited-lifetime product warranty hardware, <b>licensing needs renewed every 3 years to function</b>	10 GB Meraki, no fiber, Meraki licensing in switches and APs, <b>licensing needs renewed every 3 years to function</b>
Wireless hardware (as quoted)	\$86,974.60	\$53,116.00	\$35,424.00
Switch Hardware (as quoted)	\$108,468.38	\$85,317.00	\$90,081.00
Labor Cost (as quoted)	\$12,803.00	\$17,887.00	\$13,250.00
Maintenance Fees (as quoted)	\$0.00	\$6,318.00	\$0.00
<b>SUBTOTAL</b>	\$208,245.98	\$162,638.00	\$138,755
Wireless Access Point count	130	112	96
Licensing fees - Wireless (cost per unit)	\$0.00	\$129.25	\$117.00
Wireless licensing renewal cost - Total	\$0.00	\$14,476.00	\$11,232.00
Switch count	27	18	21
Switch licensing renewal cost - Total	\$0.00	\$0.00	\$8,737.62
Total Licensing Renewal Cost <b>EVERY 3 YEARS</b>	\$0.00	\$14,476.00	\$19,969.62
Total Licensing Renewal Cost <b>Over 15 years w/4 Renewals</b>	\$0.00	\$57,904	\$79,878.48
<b>TOTAL Cost of project over 15 years (long-term cost effectiveness)</b>	<b>\$208,245.98</b>	<b>\$162,638.00 + \$57,904 \$220,542.00</b>	<b>\$138,755 + \$79,878.48 \$218,633.48</b>

